



July 24, 2013

Mr. and Mrs. John Errington  
3927 Crosskeys Road  
Collegeville, PA 19426

**RE: Results of Indoor and Sub-Slab Air Sampling  
3927 Crosskeys Road, Collegeville, PA 19426**

Dear Mr. and Mrs. Errington:

Superior Tube Company, Inc. (STCI) thanks you for allowing Environmental Alliance, Inc. (Alliance) conduct the recent vapor intrusion investigation and sampling at your property. As you are aware, sub-slab sampling points were installed in your basement and soil-gas (air) samples from beneath your basement floor were collected, in addition to ambient indoor and outdoor air samples. We trust that Alliance employees provided courteous and professional service. As discussed in greater detail below, the soil gas sample results collected at your premises do not indicate levels of chemicals of concern (COCs) exceeding the health based standards established by the Pennsylvania Department of Environmental Protection (DEP). Should you have any questions or concerns with either the service you received or the results described in this letter, please feel free to call me at the number listed below.

Procedures and Sample Collection

On June 21<sup>st</sup> sub-slab sampling points were installed by drilling a small diameter hole in your basement floor at two locations. A recessed stainless steel sampling point was installed and sealed in each hole. On June 25<sup>th</sup>, Alliance performed a leak detection test on each point to ensure that ambient air from your basement would not get into the sample during sample collection, and that only air from beneath your basement slab would be collected. The leak detection test confirmed that both sub-slab sampling points were air tight. The sub-slab soil gas sampling, in conjunction with the ambient air samples, were then collected over a 24-hour period on June 25<sup>th</sup> and 26<sup>th</sup>, 2013.

In general, the purpose of this sampling was to evaluate if compounds in groundwater, specifically the COCs trichloroethylene (TCE) and its natural degradation compounds or “daughter products”, are volatilizing/vaporizing from groundwater up through the soil and are present in the soil gas beneath your basement slab. All soil gas samples collected were tested for these COCs in addition to other compounds, called “volatile organic compounds” or “VOCs.” The following samples were analyzed:

- ◆ Two soil gas samples were collected from the sub-slab soil gas points installed in your basement (identified as SSVP-1 and SSVP-2).
- ◆ One duplicate soil gas sample was collected from SSVP-1 for quality control purposes (SSVP-1Dup).
- ◆ One Ambient Indoor Air sample was collected from within your basement.
- ◆ One Ambient Outdoor Air sample was collected from outside of your residence.
- ◆ One quality control sample, known as a trip blank, was also analyzed. (A trip blank is a clean air sample that's transported to the sampling site and returned to the laboratory unopened. It can help identify any contamination caused by shipping or field handling procedures – although there were no such problems in your case).

#### *Soil Gas Sampling Results*

- ◆ Results from soil-gas samples (SSVP-1, SSVP-1 DUP, and SSVP-2) collected from beneath the concrete slab of your basement are summarized within Table 1. Results were compared to Pennsylvania Department of Environmental Protection's (DEP's) Residential Medium Specific Concentrations for Soil Gas ( $MSC_{SG}$ ) for each compound. The  $MSC_{SG}$  is calculated by dividing the residential indoor air quality MSC ( $MSC_{IAQ}$ ) by a transfer factor of 0.01 (or multiplying the  $MSC_{IAQ}$  by 100). The transfer factor is a conservative value relating the potential concentrations in indoor air to the concentrations in soil gas adjacent to, or under, a building.
- ◆ **No COCs**, which include TCE, Tetrachloroethene (PCE), cis-1,2-Dichloroethene (cis-1,2-DCE), trans-1,2-DCE, 1,1,1-trichloroethane (TCA), and vinyl chloride, were detected in any of the soil-gas samples.
- ◆ Low level detections of several other VOCs (which are not COCs relative to the STCI Site) were present in all soil-gas samples (SSVP-1, SSVP-1DUP, and SSVP-2).
- ◆ As seen in Table 1, **none** of the concentrations of the detected VOCs are above PADEP's  $MSC_{SG}$ .

#### *Ambient Air Sample Results*

- ◆ Results from ambient air samples (Indoor and Outdoor) collected from within your basement and from outside of your house are summarized within Table 2. Results were compared to Pennsylvania Department of Environmental Protection's (DEP's) Residential Medium Specific Concentrations for Residential Indoor Air Quality ( $MSC_{IAQ}$ ) for each compound. The  $MSC_{IAQ}$  established by the DEP assume adult and child exposure to the compounds 24 hours/day, 350 days/year for 30 years. While most basements are not occupied in this manner, the MSCs do provide a conservative standard for comparison.
- ◆ **No COCs**, which include TCE, PCE, cis- and trans-1,2-DCE, TCA, and vinyl chloride, were detected in any of the ambient air samples.
- ◆ Low level detections of several other VOCs were present in both ambient air samples (Indoor and Outdoor).
- ◆ As seen in Table 2, **two** constituents (Chloroform and 1,2-Dichloroethane) were detected in the Indoor ambient air sample at concentrations above their corresponding  $MSC_{IAQ}$ .

- ◆ Chloroform and 1,2-Dichloroethane, however, were not detected above their corresponding MSC<sub>SG</sub> at sub-slab soil gas locations (SSVP-1 and SSVP-2) suggesting that there is a contributing factor from within the basement (e.g. material stored in the basement, cleaning supplies, potential off gases from oil fueled furnace, volatilization from the public water supply, and/or operation of wood stove) responsible for these detections, **not vapor intrusion from outside sources.**

Next Steps

The DEP has recommended a second sampling event (e.g., summer and winter sampling, which allows for seasonal variation) to verify the results and confirm that volatilization of COCs in groundwater near your property do not pose a vapor intrusion risk. We will contact you with a proposed schedule for the second sampling event at the appropriate time, but we hope to complete the sampling during winter months (on or around January 2014), dependent on weather conditions. Once it is determined that no further sampling is required, we will remove the points from your basement and properly seal the holes.

If you have any questions about the information contained in this letter, please feel free to contact me at (610) 489-5218 or Joe Rossi, with Environmental Alliance, Inc., at (302) 234-4400.

Thank you again for your cooperation. It was a pleasure working with you.

Sincerely,



Ben Huber  
Director of Operations

Attachments

c: Khai Dao, EPA  
Stephen Sinding, PADEP  
Joseph Rossi, Environmental Alliance, Inc.

## **TABLES**

**TABLE 1**  
**SOIL GAS ANALYTICAL DATA SUMMARY**  
**3927 CROSS KEYS ROAD**  
**SUPERIOR TUBE FACILITY,**  
**COLLEGEVILLE, PA**

Location ID Sample Date	PADEP MSC <sub>SG</sub> RES	SSVP-1 06/25/13	DUP	SSVP-2 06/25/13	Trip Blank 06/25/13
<b>VOLATILES IN AIR (µg/m<sup>3</sup>) EPA TO-15</b>					
Acetone	<b>4,300,000</b>	23	23	42	< 1.2
Acetonitrile	NG	< 0.84	< 0.84	< 0.84	< 0.84
Acrolein	NG	< 1.1	< 1.1	< 1.1	< 1.1
Acrylonitrile	<b>31</b>	< 1.1	< 1.1	< 1.1	< 1.1
Benzene	<b>270</b>	0.65 J	< 0.64	1.3 J	< 0.64
Bromobenzene	NG	< 1.3	< 1.3	< 1.3	< 1.3
Bromodichloromethane	NG	< 1.3	< 1.3	< 1.3	< 1.3
Bromoform	<b>1,900</b>	< 2.1	< 2.1	< 2.1	< 2.1
Bromomethane	NG	< 0.78	< 0.78	< 0.78	< 0.78
1,3-Butadiene	NG	< 1.1	< 1.1	< 1.1	< 1.1
2-Butanone	<b>140,000</b>	< 1.5	< 1.5	3.2 J	< 1.5
tert-Butyl Alcohol	NG	< 1.5	< 1.5	< 1.5	< 1.5
Carbon Disulfide	NG	6.6	2.1 J	< 1.6	< 1.6
Carbon Tetrachloride	<b>140</b>	< 1.3	< 1.3	< 1.3	< 1.3
Chlorobenzene	<b>2,400</b>	< 0.92	< 0.92	< 0.92	< 0.92
Chlorodifluoromethane	NG	< 0.71	< 0.71	< 0.71	< 0.71
Chloroethane	NG	< 0.53	< 0.53	< 0.53	< 0.53
Chloroform	<b>44</b>	3.8 J	3.5 J	2.4 J	< 0.98
Chloromethane	NG	< 0.41	< 0.41	< 0.41	< 0.41
3-Chloropropene	NG	< 0.63	< 0.63	< 0.63	< 0.63
Cumene	NG	< 0.98	< 0.98	< 0.98	< 0.98
Dibromochloromethane	<b>78</b>	< 1.7	< 1.7	< 1.7	< 1.7
1,2-Dibromoethane	<b>10</b>	< 1.5	< 1.5	< 1.5	< 1.5
Dibromomethane	NG	< 1.4	< 1.4	< 1.4	< 1.4
1,2-Dichlorobenzene	<b>19,000</b>	< 1.2	< 1.2	< 1.2	< 1.2
1,3-Dichlorobenzene	NG	< 1.2	< 1.2	< 1.2	< 1.2
1,4-Dichlorobenzene	<b>330</b>	< 1.2	< 1.2	< 1.2	< 1.2
Dichlorodifluoromethane	NG	12	< 0.99	40	< 0.99
1,1-Dichloroethane	<b>1,300</b>	< 0.81	< 0.81	< 0.81	< 0.81
1,2-Dichloroethane	<b>81</b>	< 0.81	< 0.81	< 0.81	< 0.81
1,1-Dichloroethene	<b>6</b>	< 0.79	< 0.79	< 0.79	< 0.79
cis-1,2-Dichloroethene	<b>4,900</b>	< 0.79	< 0.79	< 0.79	< 0.79
trans-1,2-Dichloroethene	<b>9,700</b>	< 0.79	< 0.79	< 0.79	< 0.79
Dichlorofluoromethane	NG	< 0.84	< 0.84	< 0.84	< 0.84
1,2-Dichloropropane	<b>200</b>	< 0.92	< 0.92	< 0.92	< 0.92
cis-1,3-Dichloropropene	NG	< 0.91	< 0.91	< 0.91	< 0.91
trans-1,3-Dichloropropene	NG	< 0.91	< 0.91	< 0.91	< 0.91
1,4-Dioxane	NG	< 1.8	< 1.8	< 1.8	< 1.8
Ethyl Acetate	NG	7.4	7.1	5.1	< 1.8
Ethyl Acrylate	NG	< 0.82	< 0.82	< 0.82	< 0.82
Ethyl Methacrylate	NG	< 0.93	< 0.93	< 0.93	< 0.93
Ethylbenzene	<b>1,900</b>	< 0.87	< 0.87	< 0.87	< 0.87
4-Ethyltoluene	NG	< 0.98	< 0.98	< 0.98	< 0.98
Freon 113	NG	< 3.8	< 3.8	< 3.8	< 3.8

**TABLE 1**  
**SOIL GAS ANALYTICAL DATA SUMMARY**  
**3927 CROSS KEYS ROAD**  
**SUPERIOR TUBE FACILITY,**  
**COLLEGEVILLE, PA**

Location ID Sample Date	PADEP MSC <sub>SG</sub> RES	SSVP-1		SSVP-2 06/25/13	Trip Blank 06/25/13
		06/25/13	DUP		
<b>VOLATILES IN AIR (µg/m<sup>3</sup>) EPA TO-15</b>					
Freon 114	NG	< 1.4	< 1.4	< 1.4	< 1.4
Heptane	NG	< 0.82	< 0.82	< 0.82	< 0.82
Hexachlorobutadiene	NG	< 5.3	< 5.3	< 5.3	< 5.3
Hexachloroethane	NG	< 1.9	< 1.9	< 1.9	< 1.9
Hexane	NG	< 0.70	< 0.70	< 0.70	< 0.70
2-Hexanone	NG	< 2.0	< 2.0	< 2.0	< 2.0
Isooctane	NG	< 0.93	< 0.93	< 0.93	< 0.93
Methyl Acrylate	NG	< 0.70	< 0.70	< 0.70	< 0.70
Methyl Iodide	NG	< 1.2	< 1.2	< 1.2	< 1.2
Methyl Methacrylate	NG	< 0.82	< 0.82	< 0.82	< 0.82
Alpha Methyl Styrene	NG	< 0.97	< 0.97	< 0.97	< 0.97
Methyl t-Butyl Ether	4,100	0.81 J	0.75 J	1.4 J	< 0.72
4-Methyl-2-Pentanone	9,700	< 2.0	< 2.0	< 2.0	< 2.0
Methylene Chloride	4,400	0.96 J	0.90 J	1.7 J	< 0.69
Octane	NG	< 0.93	< 0.93	< 0.93	< 0.93
Pentane	NG	1.0 J	1.1 J	3.7	< 0.59
Propene	NG	< 0.34	< 0.34	< 0.34	< 0.34
Styrene	140,000	< 0.85	< 0.85	< 0.85	< 0.85
1,1,1,2-Tetrachloroethane	NG	< 1.4	< 1.4	< 1.4	< 1.4
1,1,2,2-Tetrachloroethane	36	< 1.4	< 1.4	< 1.4	< 1.4
Tetrachloroethene	730	< 1.4	< 1.4	< 1.4	< 1.4
Toluene	56,000	< 0.75	< 0.75	1.5 J	< 0.75
1,2,4-Trichlorobenzene	NG	< 3.7	< 3.7	< 3.7	< 3.7
1,1,1-Trichloroethane	290,000	< 1.1	< 1.1	< 1.1	< 1.1
1,1,2-Trichloroethane	130	< 1.1	< 1.1	< 1.1	< 1.1
Trichloroethene	18	< 1.1	< 1.1	< 1.1	< 1.1
Trichlorofluoromethane	NG	55	< 1.1	< 1.1	< 1.1
1,2,3-Trichloropropane	NG	< 1.2	< 1.2	< 1.2	< 1.2
1,2,4-Trimethylbenzene	NG	< 0.98	< 0.98	< 0.98	< 0.98
1,3,5-Trimethylbenzene	NG	< 0.98	< 0.98	< 0.98	< 0.98
Vinyl Acetate	NG	< 1.8	< 1.8	< 1.8	< 1.8
Vinyl Chloride	240	< 0.51	< 0.51	< 0.51	< 0.51
m/p-Xylene	60,000	< 0.87	1.2 J	1.3 J	< 0.87
o-Xylene	NG	< 0.87	< 0.87	< 0.87	< 0.87

NG = criteria Not Given

µg/m<sup>3</sup> = micrograms per meters cubed

J = estimated value; added during data validation review process

< = analyte not detected at or above the specified laboratory detection limit

Results in **bold** exceed the PADEP criteria

PADEP RES MSC<sub>SG</sub>= Pennsylvania Department of Environmental Protection (PADEP) criteria for Indoor

Air Quality, Residential Medium-Specific Concentration (MSC) x 100

**TABLE 2**  
**AMBIENT AIR ANALYTICAL DATA SUMMARY**  
**3927 CROSS KEYS ROAD**  
**SUPERIOR TUBE FACILITY**  
**COLLEGEVILLE, PA**

Location ID Sample Date	PADEP MSC RES	INDOOR AMBIENT 06/25/13	OUTDOOR AMBIENT 06/25/13	Trip Blank 06/25/13
<b>VOLATILES IN AIR (<math>\mu\text{g}/\text{m}^3</math>) EPA TO-15</b>				
Acetone	<b>43,000</b>	160	16	< 1.2
Acetonitrile	<b>NG</b>	< 0.84	< 0.84	< 0.84
Acrolein	<b>NG</b>	< 1.1	< 1.1	< 1.1
Acrylonitrile	<b>0.31</b>	< 1.1	< 1.1	< 1.1
Benzene	<b>2.7</b>	6.2	< 0.64	< 0.64
Bromobenzene	<b>NG</b>	< 1.3	< 1.3	< 1.3
Bromodichloromethane	<b>NG</b>	< 1.3	< 1.3	< 1.3
Bromoform	<b>19</b>	< 2.1	< 2.1	< 2.1
Bromomethane	<b>NG</b>	< 0.78	< 0.78	< 0.78
1,3-Butadiene	<b>NG</b>	< 1.1	< 1.1	< 1.1
2-Butanone	<b>1,400</b>	9.4	1.7 J	< 1.5
tert-Butyl Alcohol	<b>NG</b>	< 1.5	< 1.5	< 1.5
Carbon Disulfide	<b>NG</b>	< 1.6	< 1.6	< 1.6
Carbon Tetrachloride	<b>1.4</b>	< 1.3	< 1.3	< 1.3
Chlorobenzene	<b>24</b>	< 0.92	< 0.92	< 0.92
Chlorodifluoromethane	<b>NG</b>	< 0.71	< 0.71	< 0.71
Chloroethane	<b>NG</b>	< 0.53	< 0.53	< 0.53
Chloroform	<b>0.44</b>	<b>6.3</b>	< 0.98	< 0.98
Chloromethane	<b>NG</b>	1.5 J	1.2 J	< 0.41
3-Chloropropene	<b>NG</b>	< 0.63	< 0.63	< 0.63
Cumene	<b>NG</b>	< 0.98	< 0.98	< 0.98
Dibromochloromethane	<b>0.78</b>	< 1.7	< 1.7	< 1.7
1,2-Dibromoethane	<b>0.095</b>	< 1.5	< 1.5	< 1.5
Dibromomethane	<b>NG</b>	< 1.4	< 1.4	< 1.4
1,2-Dichlorobenzene	<b>190</b>	< 1.2	< 1.2	< 1.2
1,3-Dichlorobenzene	<b>NG</b>	< 1.2	< 1.2	< 1.2
1,4-Dichlorobenzene	<b>3.3</b>	< 1.2	< 1.2	< 1.2
Dichlorodifluoromethane	<b>NG</b>	15	2.9 J	< 0.99
1,1-Dichloroethane	<b>13</b>	< 0.81	< 0.81	< 0.81
1,2-Dichloroethane	<b>0.81</b>	<b>1.6 J</b>	< 0.81	< 0.81
1,1-Dichloroethene	<b>0.061</b>	< 0.79	< 0.79	< 0.79
cis-1,2-Dichloroethene	<b>49</b>	< 0.79	< 0.79	< 0.79
trans-1,2-Dichloroethene	<b>97</b>	< 0.79	< 0.79	< 0.79
Dichlorofluoromethane	<b>NG</b>	< 0.84	< 0.84	< 0.84
1,2-Dichloropropane	<b>2</b>	< 0.92	< 0.92	< 0.92
cis-1,3-Dichloropropene	<b>NG</b>	< 0.91	< 0.91	< 0.91
trans-1,3-Dichloropropene	<b>NG</b>	< 0.91	< 0.91	< 0.91
1,4-Dioxane	<b>NG</b>	< 1.8	< 1.8	< 1.8
Ethyl Acetate	<b>NG</b>	43	< 1.8	< 1.8
Ethyl Acrylate	<b>NG</b>	< 0.82	< 0.82	< 0.82
Ethyl Methacrylate	<b>NG</b>	< 0.93	< 0.93	< 0.93
Ethylbenzene	<b>19</b>	6.7	< 0.87	< 0.87
4-Ethyltoluene	<b>NG</b>	2.4 J	< 0.98	< 0.98
Freon 113	<b>NG</b>	< 3.8	< 3.8	< 3.8

**TABLE 2**  
**AMBIENT AIR ANALYTICAL DATA SUMMARY**  
**3927 CROSS KEYS ROAD**  
**SUPERIOR TUBE FACILITY**  
**COLLEGEVILLE, PA**

Location ID Sample Date	PADEP MSC RES	INDOOR AMBIENT 06/25/13	OUTDOOR AMBIENT 06/25/13	Trip Blank 06/25/13
<b>VOLATILES IN AIR (µg/m³) EPA TO-15</b>				
Freon 114	NG	2.5 J	< 1.4	< 1.4
Heptane	NG	7.8	< 0.82	< 0.82
Hexachlorobutadiene	NG	< 5.3	< 5.3	< 5.3
Hexachloroethane	NG	< 1.9	< 1.9	< 1.9
Hexane	NG	23	0.97 J	< 0.70
2-Hexanone	NG	< 2.0	< 2.0	< 2.0
Isooctane	NG	7.7	< 0.93	< 0.93
Methyl Acrylate	NG	< 0.70	< 0.70	< 0.70
Methyl Iodide	NG	< 1.2	< 1.2	< 1.2
Methyl Methacrylate	NG	< 0.82	< 0.82	< 0.82
Alpha Methyl Styrene	NG	< 0.97	< 0.97	< 0.97
Methyl t-Butyl Ether	41	< 0.72	< 0.72	< 0.72
4-Methyl-2-Pentanone	97	< 2.0	< 2.0	< 2.0
Methylene Chloride	44	12	3.0 J	< 0.69
Octane	NG	3.4 J	< 0.93	< 0.93
Pentane	NG	67	2.0 J	< 0.59
Propene	NG	13	1.4 J	< 0.34
Styrene	1,400	2.3 J	< 0.85	< 0.85
1,1,1,2-Tetrachloroethane	NG	< 1.4	< 1.4	< 1.4
1,1,2,2-Tetrachloroethane	0.36	< 1.4	< 1.4	< 1.4
Tetrachloroethene	7.3	< 1.4	< 1.4	< 1.4
Toluene	560	53	1.2 J	< 0.75
1,2,4-Trichlorobenzene	NG	< 3.7	< 3.7	< 3.7
1,1,1-Trichloroethane	2,900	< 1.1	< 1.1	< 1.1
1,1,2-Trichloroethane	1.3	< 1.1	< 1.1	< 1.1
Trichloroethene	0.18	< 1.1	< 1.1	< 1.1
Trichlorofluoromethane	NG	40	1.4 J	< 1.1
1,2,3-Trichloropropane	NG	< 1.2	< 1.2	< 1.2
1,2,4-Trimethylbenzene	NG	10	< 0.98	< 0.98
1,3,5-Trimethylbenzene	NG	2.6 J	< 0.98	< 0.98
Vinyl Acetate	NG	< 1.8	< 1.8	< 1.8
Vinyl Chloride	2.4	< 0.51	< 0.51	< 0.51
m/p-Xylene	600	34	< 0.87	< 0.87
o-Xylene	NG	11	< 0.87	< 0.87

NG = criteria Not Given

µg/m³ = micrograms per meters cubed

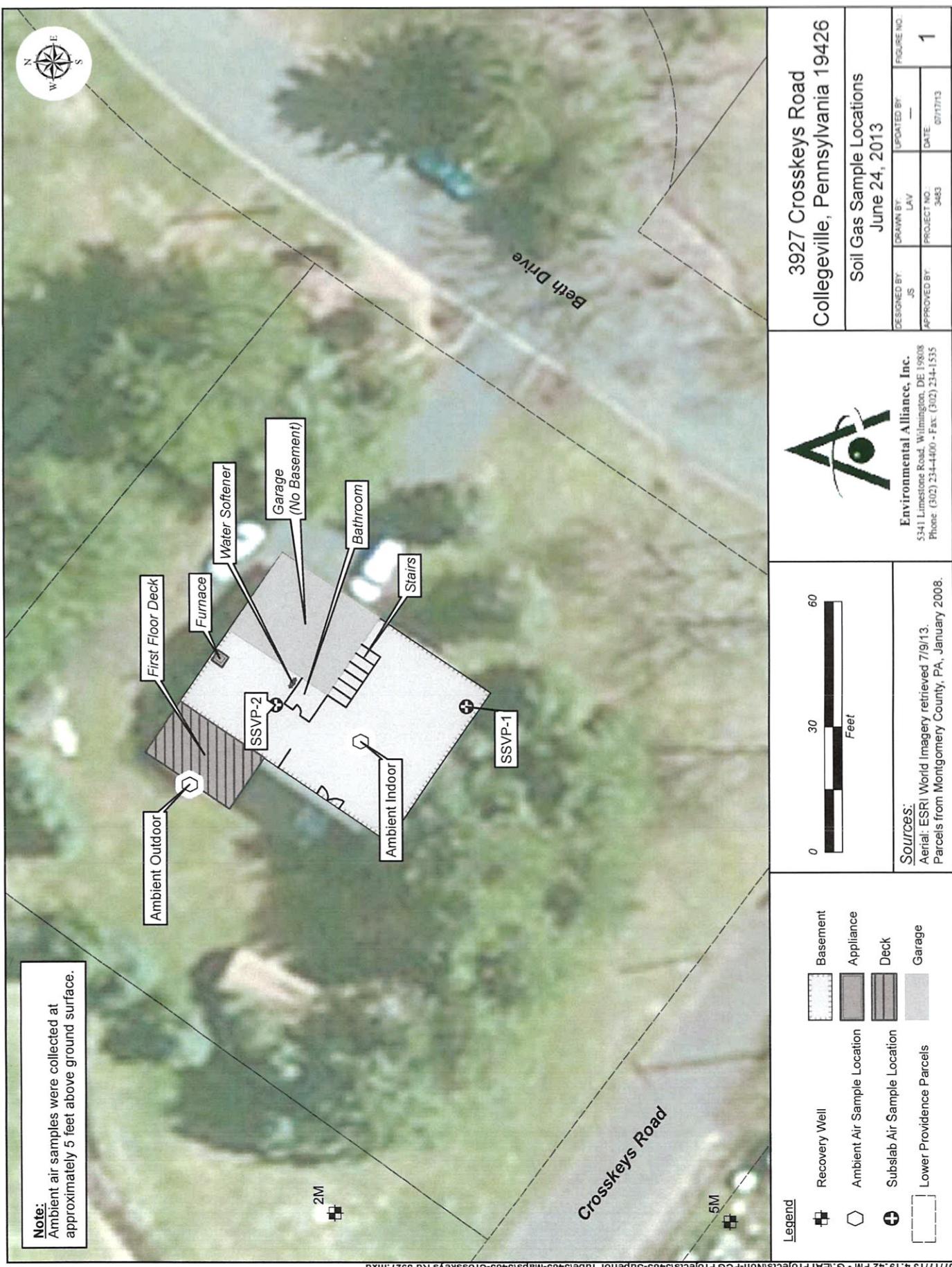
J = estimated value; added during data validation review process

< = analyte not detected at or above the specified laboratory detection limit

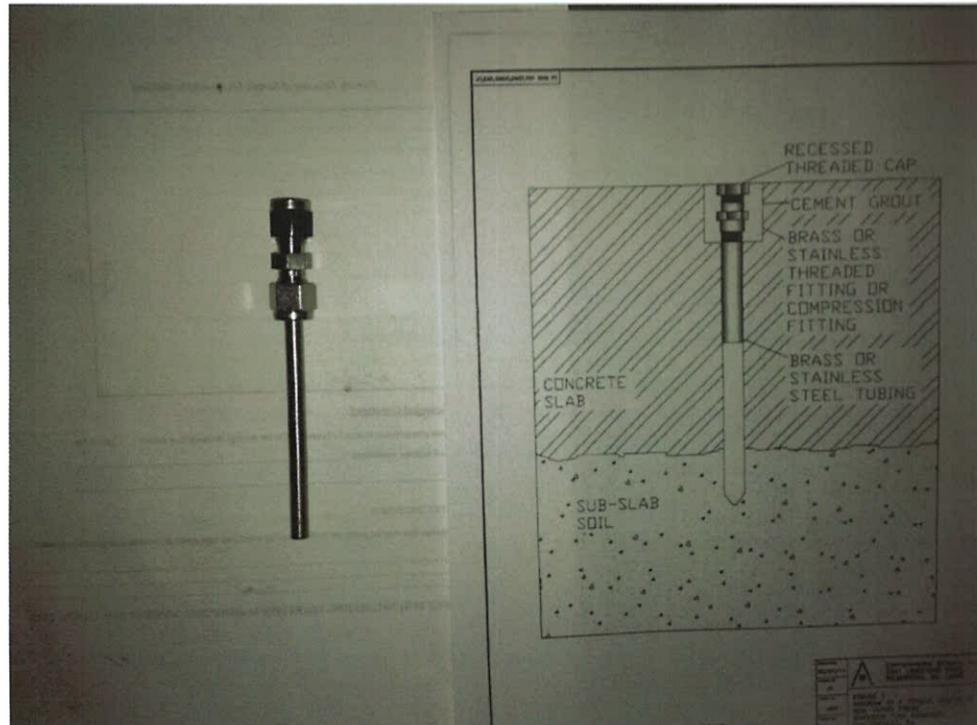
Results in **bold** exceed the PADEP criteria

PADEP RES MSC= Pennsylvania Department of Environmental Protection (PADEP) criteria  
for Indoor Air Quality, Residential Medium-Specific Concentration (MSC)

**FIGURE**



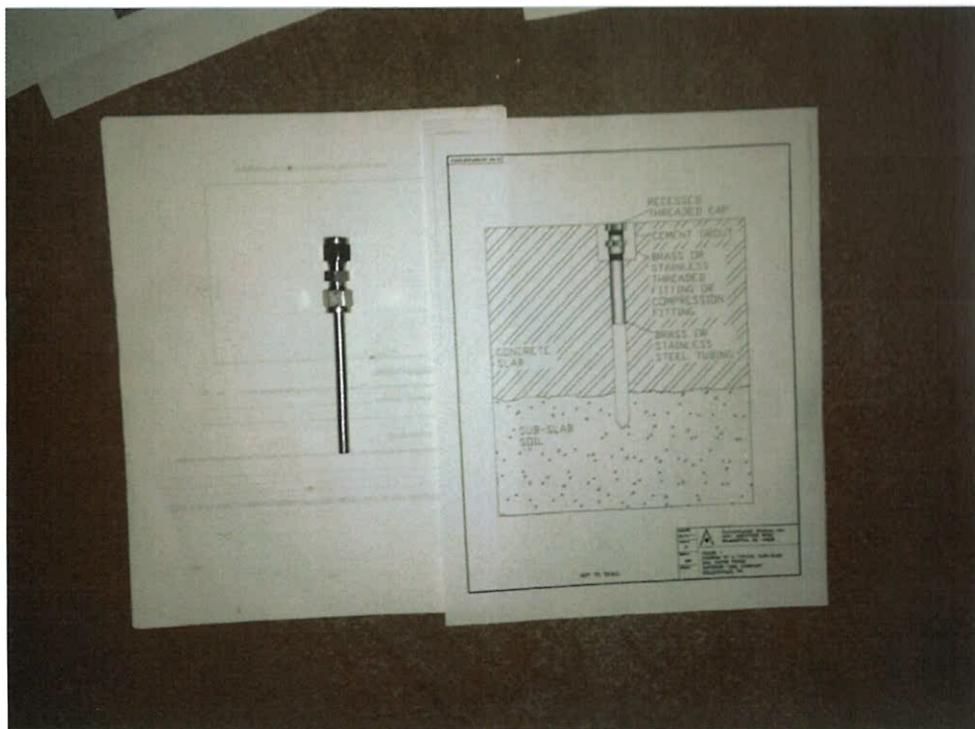
## **PHOTOGRAPHS**



SSVP-1 point construction



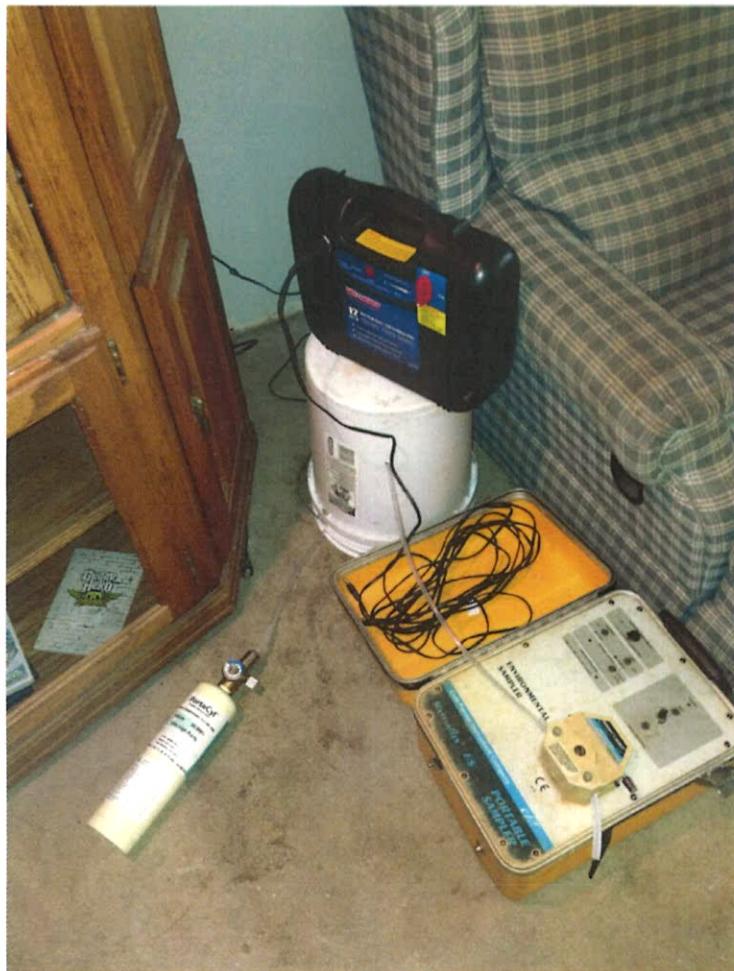
SSVP-1



SSVP-2 point construction



SSVP-2



**SSVP-1 Leak Testing**



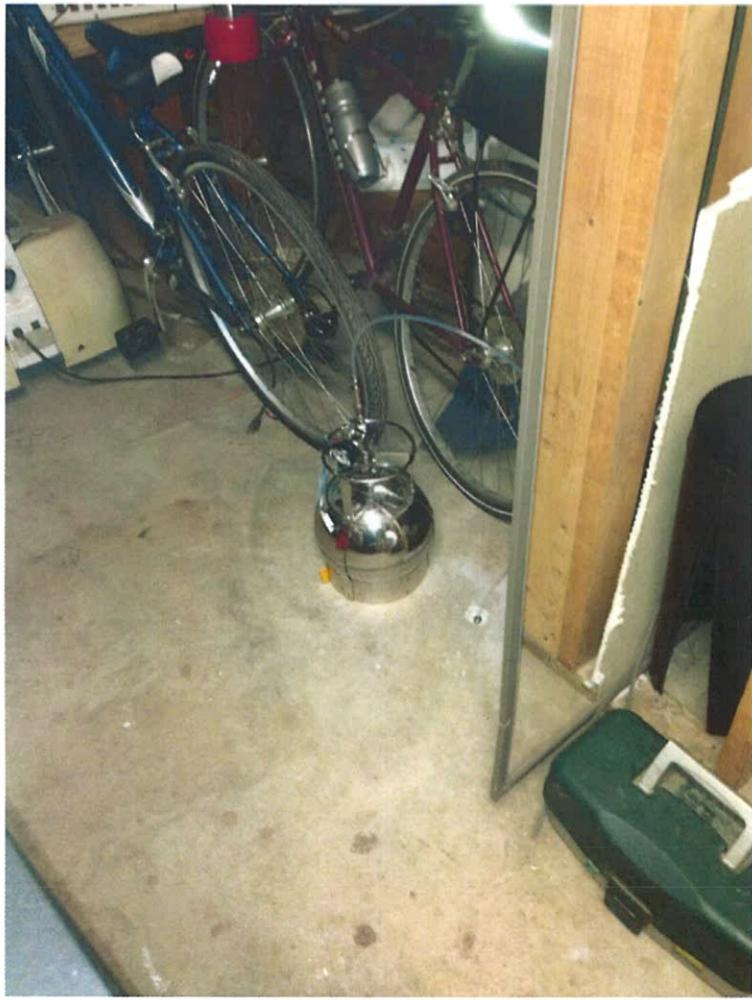
**SSVP-2 Leak Testing**



SSVP-1 and SSVP-1Dup sample collection



SSVP-1 and SSVP-1Dup sample collection



**SSVP-2 sample collection**



Ambient Indoor Air sample (~5.0 ft off floor) and Trip Blank



Ambient Outdoor Sample

**LABORATORY DATA PACKAGE**



Lancaster Laboratories  
Environmental

2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-2081 • www.LancasterLabs.com

## Analysis Report

### ANALYTICAL RESULTS

Prepared by:

Eurofins Lancaster Laboratories Environmental  
2425 New Holland Pike  
Lancaster, PA 17601

Prepared for:

Environmental Alliance, Inc.  
5341 Limestone Rd  
Wilmington DE 19808

July 03, 2013

Project: 3483 / Superior Tube, PA

Submittal Date: 06/27/2013  
Group Number: 1400350  
PO Number: 6527  
State of Sample Origin: PA

Client Sample Description  
SSVP10625131315 Composite Air  
SSVP1DUP0625131315 Composite Air  
SSVP20625131310 Composite Air  
Outdoor\_Ambient0625131340 Composite Air  
Indoor\_Ambient0625131320 Composite Air  
Trip\_Blank062513 Air

Lancaster Labs (LL) #  
7110106  
7110107  
7110108  
7110109  
7110110  
7110111

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

ELECTRONIC      Environmental Alliance, Inc.  
COPY TO

Attn: Myrna Klair

Respectfully Submitted,

Megan A. Moeller  
Senior Specialist

(717) 556-7261



Lancaster Laboratories  
Environmental

# Analysis Report

2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-2681 • www.LancasterLabs.com

**Sample Description:** SSVP10625131315 Composite Air  
Summa Can# 1125  
3483 / Superior Tube, PA

LL Sample # AQ 7110106  
LL Group # 1400350  
Account # 07039

**Project Name:** 3483 / Superior Tube, PA

Collected: 06/25/2013 13:15 by JS

Environmental Alliance, Inc.

through 06/26/2013 13:15

5341 Limestone Rd

Submitted: 06/27/2013 18:10

Wilmington DE 19808

Reported: 07/03/2013 16:10

CAT No.	Analysis Name	CAS Number	As Received Final Result	MDL	As Received Final Result	MDL	DF
	<b>Volatiles in Air</b>	EPA TO-15	ppb(v)	ppb(v)	ug/m3	ug/m3	
05298	Acetone	67-64-1	9.7	0.50	23	1.2	1
05298	Acetonitrile	75-05-8	N.D.	0.50	N.D.	0.84	1
05298	Acrolein	107-02-8	N.D.	0.50	N.D.	1.1	1
05298	Acrylonitrile	107-13-1	N.D.	0.50	N.D.	1.1	1
05298	Benzene	71-43-2	0.20 J	0.20	0.65 J	0.64	1
05298	Bromobenzene	108-86-1	N.D.	0.20	N.D.	1.3	1
05298	Bromodichloromethane	75-27-4	N.D.	0.20	N.D.	1.3	1
05298	Bromoform	75-25-2	N.D.	0.20	N.D.	2.1	1
05298	Bromomethane	74-83-9	N.D.	0.20	N.D.	0.78	1
05298	1,3-Butadiene	106-99-0	N.D.	0.50	N.D.	1.1	1
05298	2-Butanone	78-93-3	N.D.	0.50	N.D.	1.5	1
05298	tert-Butyl Alcohol	75-65-0	N.D.	0.50	N.D.	1.5	1
05298	Carbon Disulfide	75-15-0	2.1	0.50	6.6	1.6	1
05298	Carbon Tetrachloride	56-23-5	N.D.	0.20	N.D.	1.3	1
05298	Chlorobenzene	108-90-7	N.D.	0.20	N.D.	0.92	1
05298	Chlorodifluoromethane	75-45-6	N.D.	0.20	N.D.	0.71	1
05298	Chloroethane	75-00-3	N.D.	0.20	N.D.	0.53	1
05298	Chloroform	67-66-3	0.78 J	0.20	3.8 J	0.98	1
05298	Chloromethane	74-87-3	N.D.	0.20	N.D.	0.41	1
05298	3-Chloropropene	107-05-1	N.D.	0.20	N.D.	0.63	1
05298	Cumene	98-82-8	N.D.	0.20	N.D.	0.98	1
05298	Dibromochloromethane	124-48-1	N.D.	0.20	N.D.	1.7	1
05298	1,2-Dibromoethane	106-93-4	N.D.	0.20	N.D.	1.5	1
05298	Dibromomethane	74-95-3	N.D.	0.20	N.D.	1.4	1
05298	1,2-Dichlorobenzene	95-50-1	N.D.	0.20	N.D.	1.2	1
05298	1,3-Dichlorobenzene	541-73-1	N.D.	0.20	N.D.	1.2	1
05298	1,4-Dichlorobenzene	106-46-7	N.D.	0.20	N.D.	1.2	1
05298	Dichlorodifluoromethane	75-71-8	2.3	0.20	12	0.99	1
05298	1,1-Dichloroethane	75-34-3	N.D.	0.20	N.D.	0.81	1
05298	1,2-Dichloroethane	107-06-2	N.D.	0.20	N.D.	0.81	1
05298	1,1-Dichloroethene	75-35-4	N.D.	0.20	N.D.	0.79	1
05298	cis-1,2-Dichloroethene	156-59-2	N.D.	0.20	N.D.	0.79	1
05298	trans-1,2-Dichloroethene	156-60-5	N.D.	0.20	N.D.	0.79	1
05298	Dichlorofluoromethane	75-43-4	N.D.	0.20	N.D.	0.84	1
05298	1,2-Dichloropropane	78-87-5	N.D.	0.20	N.D.	0.92	1
05298	cis-1,3-Dichloropropene	10061-01-5	N.D.	0.20	N.D.	0.91	1
05298	trans-1,3-Dichloropropene	10061-02-6	N.D.	0.20	N.D.	0.91	1
05298	1,4-Dioxane	123-91-1	N.D.	0.50	N.D.	1.8	1
05298	Ethyl Acetate	141-78-6	2.1	0.50	7.4	1.8	1
05298	Ethyl Acrylate	140-88-5	N.D.	0.20	N.D.	0.82	1
05298	Ethyl Methacrylate	97-63-2	N.D.	0.20	N.D.	0.93	1
05298	Ethylbenzene	100-41-4	N.D.	0.20	N.D.	0.87	1
05298	4-Ethyltoluene	622-96-8	N.D.	0.20	N.D.	0.98	1
05298	Freon 113	76-13-1	N.D.	0.50	N.D.	3.8	1
05298	Freon 114	76-14-2	N.D.	0.20	N.D.	1.4	1
05298	Heptane	142-82-5	N.D.	0.20	N.D.	0.82	1
05298	Hexachlorobutadiene	87-68-3	N.D.	0.50	N.D.	5.3	1
05298	Hexachloroethane	67-72-1	N.D.	0.20	N.D.	1.9	1
05298	Hexane	110-54-3	N.D.	0.20	N.D.	0.70	1
05298	2-Hexanone	591-78-6	N.D.	0.50	N.D.	2.0	1
05298	Isooctane	540-84-1	N.D.	0.20	N.D.	0.93	1



**Sample Description:** SSVP10625131315 Composite Air  
Summa Can# 1125  
3483 / Superior Tube, PA

LL Sample # AQ 7110106  
LL Group # 1400350  
Account # 07039

**Project Name:** 3483 / Superior Tube, PA

Collected: 06/25/2013 13:15 by JS

Environmental Alliance, Inc.

through 06/26/2013 13:15

5341 Limestone Rd

Submitted: 06/27/2013 18:10

Wilmington DE 19808

Reported: 07/03/2013 16:10

CAT No.	Analysis Name	CAS Number	As Received Final Result	MDL	As Received Final Result	MDL	DF
	<b>Volatiles in Air</b>	EPA TO-15	ppb(v)	ppb(v)	ug/m3	ug/m3	
05298	Methyl Acrylate	96-33-3	N.D.	0.20	N.D.	0.70	1
05298	Methyl Iodide	74-88-4	N.D.	0.20	N.D.	1.2	1
05298	Methyl Methacrylate	80-62-6	N.D.	0.20	N.D.	0.82	1
05298	Alpha Methyl Styrene	98-83-9	N.D.	0.20	N.D.	0.97	1
05298	Methyl t-Butyl Ether	1634-04-4	0.22 J	0.20	0.81 J	0.72	1
05298	4-Methyl-2-Pentanone	108-10-1	N.D.	0.50	N.D.	2.0	1
05298	Methylene Chloride	75-09-2	0.28 J	0.20	0.96 J	0.69	1
05298	Octane	111-65-9	N.D.	0.20	N.D.	0.93	1
05298	Pentane	109-66-0	0.35 J	0.20	1.0 J	0.59	1
05298	Propene	115-07-1	N.D.	0.20	N.D.	0.34	1
05298	Styrene	100-42-5	N.D.	0.20	N.D.	0.85	1
05298	1,1,1,2-Tetrachloroethane	630-20-6	N.D.	0.20	N.D.	1.4	1
05298	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	0.20	N.D.	1.4	1
05298	Tetrachloroethene	127-18-4	N.D.	0.20	N.D.	1.4	1
05298	Toluene	108-88-3	N.D.	0.20	N.D.	0.75	1
05298	1,2,4-Trichlorobenzene	120-82-1	N.D.	0.50	N.D.	3.7	1
05298	1,1,1-Trichloroethane	71-55-6	N.D.	0.20	N.D.	1.1	1
05298	1,1,2-Trichloroethane	79-00-5	N.D.	0.20	N.D.	1.1	1
05298	Trichloroethene	79-01-6	N.D.	0.20	N.D.	1.1	1
05298	Trichlorofluoromethane	75-69-4	9.8	0.20	55	1.1	1
05298	1,2,3-Trichloropropane	96-18-4	N.D.	0.20	N.D.	1.2	1
05298	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.20	N.D.	0.98	1
05298	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.20	N.D.	0.98	1
05298	Vinyl Acetate	108-05-4	N.D.	0.50	N.D.	1.8	1
05298	Vinyl Chloride	75-01-4	N.D.	0.20	N.D.	0.51	1
05298	m/p-Xylene	179601-23-1	N.D.	0.20	N.D.	0.87	1
05298	o-Xylene	95-47-6	N.D.	0.20	N.D.	0.87	1

MDL = Method Detection Limit

#### General Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/14.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

#### Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
05298	TO-15 Extended List	EPA TO-15	1	D1318130AB	07/02/2013 01:59	Michael A Ziegler	1



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# Analysis Report

2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-2681 • www.LancasterLabs.com

Sample Description: SSVP1DUP0625131315 Composite Air  
Summa Can# 873  
3483 / Superior Tube, PA

LL Sample # AQ 7110107  
LL Group # 1400350  
Account # 07039

Project Name: 3483 / Superior Tube, PA

Collected: 06/25/2013 13:15 by JS

Environmental Alliance, Inc.

through 06/26/2013 13:15

5341 Limestone Rd

Submitted: 06/27/2013 18:10

Wilmington DE 19808

Reported: 07/03/2013 16:10

CAT No.	Analysis Name	CAS Number	As Received Final Result	MDL	As Received Final Result	MDL	DF
	<b>Volatiles in Air</b>	EPA TO-15	ppb(v)	ppb(v)	ug/m3	ug/m3	
05298	Acetone	67-64-1	9.7	0.50	23	1.2	1
05298	Acetonitrile	75-05-8	N.D.	0.50	N.D.	0.84	1
05298	Acrolein	107-02-8	N.D.	0.50	N.D.	1.1	1
05298	Acrylonitrile	107-13-1	N.D.	0.50	N.D.	1.1	1
05298	Benzene	71-43-2	N.D.	0.20	N.D.	0.64	1
05298	Bromobenzene	108-86-1	N.D.	0.20	N.D.	1.3	1
05298	Bromodichloromethane	75-27-4	N.D.	0.20	N.D.	1.3	1
05298	Bromoform	75-25-2	N.D.	0.20	N.D.	2.1	1
05298	Bromomethane	74-83-9	N.D.	0.20	N.D.	0.78	1
05298	1,3-Butadiene	106-99-0	N.D.	0.50	N.D.	1.1	1
05298	2-Butanone	78-93-3	N.D.	0.50	N.D.	1.5	1
05298	tert-Butyl Alcohol	75-65-0	N.D.	0.50	N.D.	1.5	1
05298	Carbon Disulfide	75-15-0	0.66	J	0.50	2.1	1
05298	Carbon Tetrachloride	56-23-5	N.D.	0.20	N.D.	1.6	1
05298	Chlorobenzene	108-90-7	N.D.	0.20	N.D.	0.92	1
05298	Chlorodifluoromethane	75-45-6	N.D.	0.20	N.D.	0.71	1
05298	Chloroethane	75-00-3	N.D.	0.20	N.D.	0.53	1
05298	Chloroform	67-66-3	0.72	J	0.20	3.5	1
05298	Chloromethane	74-87-3	N.D.	0.20	N.D.	0.98	1
05298	3-Chloropropene	107-05-1	N.D.	0.20	N.D.	0.41	1
05298	Cumene	98-82-8	N.D.	0.20	N.D.	0.63	1
05298	Dibromochloromethane	124-48-1	N.D.	0.20	N.D.	0.98	1
05298	1,2-Dibromoethane	106-93-4	N.D.	0.20	N.D.	1.7	1
05298	Dibromomethane	74-95-3	N.D.	0.20	N.D.	1.5	1
05298	1,2-Dichlorobenzene	95-50-1	N.D.	0.20	N.D.	1.4	1
05298	1,3-Dichlorobenzene	541-73-1	N.D.	0.20	N.D.	1.2	1
05298	1,4-Dichlorobenzene	106-46-7	N.D.	0.20	N.D.	1.2	1
05298	Dichlorodifluoromethane	75-71-8	N.D.	0.20	N.D.	0.99	1
05298	1,1-Dichloroethane	75-34-3	N.D.	0.20	N.D.	0.81	1
05298	1,2-Dichloroethane	107-06-2	N.D.	0.20	N.D.	0.81	1
05298	1,1-Dichloroethene	75-35-4	N.D.	0.20	N.D.	0.79	1
05298	cis-1,2-Dichloroethene	156-59-2	N.D.	0.20	N.D.	0.79	1
05298	trans-1,2-Dichloroethene	156-60-5	N.D.	0.20	N.D.	0.79	1
05298	Dichlorofluoromethane	75-43-4	N.D.	0.20	N.D.	0.84	1
05298	1,2-Dichloropropane	78-87-5	N.D.	0.20	N.D.	0.92	1
05298	cis-1,3-Dichloropropene	10061-01-5	N.D.	0.20	N.D.	0.91	1
05298	trans-1,3-Dichloropropene	10061-02-6	N.D.	0.20	N.D.	0.91	1
05298	1,4-Dioxane	123-91-1	N.D.	0.50	N.D.	1.8	1
05298	Ethyl Acetate	141-78-6	2.0	0.50	7.1	1.8	1
05298	Ethyl Acrylate	140-88-5	N.D.	0.20	N.D.	0.82	1
05298	Ethyl Methacrylate	97-63-2	N.D.	0.20	N.D.	0.93	1
05298	Ethylbenzene	100-41-4	N.D.	0.20	N.D.	0.87	1
05298	4-Ethyltoluene	622-96-8	N.D.	0.20	N.D.	0.98	1
05298	Freon 113	76-13-1	N.D.	0.50	N.D.	3.8	1
05298	Freon 114	76-14-2	N.D.	0.20	N.D.	1.4	1
05298	Heptane	142-82-5	N.D.	0.20	N.D.	0.82	1
05298	Hexachlorobutadiene	87-68-3	N.D.	0.50	N.D.	5.3	1
05298	Hexachloroethane	67-72-1	N.D.	0.20	N.D.	1.9	1
05298	Hexane	110-54-3	N.D.	0.20	N.D.	0.70	1
05298	2-Hexanone	591-78-6	N.D.	0.50	N.D.	2.0	1
05298	Isooctane	540-84-1	N.D.	0.20	N.D.	0.93	1



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Environmental

# Analysis Report

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**Sample Description:** SSVP1DUP0625131315 Composite Air  
Summa Can# 873  
3483 / Superior Tube, PA

LL Sample # AQ 7110107  
LL Group # 1400350  
Account # 07039

**Project Name:** 3483 / Superior Tube, PA

Collected: 06/25/2013 13:15 by JS

Environmental Alliance, Inc.

through 06/26/2013 13:15

5341 Limestone Rd

Submitted: 06/27/2013 18:10

Wilmington DE 19808

Reported: 07/03/2013 16:10

CAT No.	Analysis Name	CAS Number	As Received Final Result	MDL	As Received Final Result	MDL	DF
	<b>Volatiles in Air</b>	EPA TO-15	ppb(v)	ppb(v)	ug/m3	ug/m3	
05298	Methyl Acrylate	96-33-3	N.D.	0.20	N.D.	0.70	1
05298	Methyl Iodide	74-88-4	N.D.	0.20	N.D.	1.2	1
05298	Methyl Methacrylate	80-62-6	N.D.	0.20	N.D.	0.82	1
05298	Alpha Methyl Styrene	98-83-9	N.D.	0.20	N.D.	0.97	1
05298	Methyl t-Butyl Ether	1634-04-4	0.21 J	0.20	0.75 J	0.72	1
05298	4-Methyl-2-Pentanone	108-10-1	N.D.	0.50	N.D.	2.0	1
05298	Methylene Chloride	75-09-2	0.26 J	0.20	0.90 J	0.69	1
05298	Octane	111-65-9	N.D.	0.20	N.D.	0.93	1
05298	Pentane	109-66-0	0.38 J	0.20	1.1 J	0.59	1
05298	Propene	115-07-1	N.D.	0.20	N.D.	0.34	1
05298	Styrene	100-42-5	N.D.	0.20	N.D.	0.85	1
05298	1,1,2-Tetrachloroethane	630-20-6	N.D.	0.20	N.D.	1.4	1
05298	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	0.20	N.D.	1.4	1
05298	Tetrachloroethene	127-18-4	N.D.	0.20	N.D.	1.4	1
05298	Toluene	108-88-3	N.D.	0.20	N.D.	0.75	1
05298	1,2,4-Trichlorobenzene	120-82-1	N.D.	0.50	N.D.	3.7	1
05298	1,1,1-Trichloroethane	71-55-6	N.D.	0.20	N.D.	1.1	1
05298	1,1,2-Trichloroethane	79-00-5	N.D.	0.20	N.D.	1.1	1
05298	Trichloroethene	79-01-6	N.D.	0.20	N.D.	1.1	1
05298	Trichlorofluoromethane	75-69-4	N.D.	0.20	N.D.	1.1	1
05298	1,2,3-Trichloropropane	96-18-4	N.D.	0.20	N.D.	1.2	1
05298	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.20	N.D.	0.98	1
05298	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.20	N.D.	0.98	1
05298	Vinyl Acetate	108-05-4	N.D.	0.50	N.D.	1.8	1
05298	Vinyl Chloride	75-01-4	N.D.	0.20	N.D.	0.51	1
05298	m/p-Xylene	179601-23-1	0.28 J	0.20	1.2 J	0.87	1
05298	o-Xylene	95-47-6	N.D.	0.20	N.D.	0.87	1

MDL = Method Detection Limit

### General Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/14.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

### Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
05298	TO-15 Extended List	EPA TO-15	1	D1318130AB	07/02/2013 02:47	Michael A Ziegler	1

2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-2681 • www.LancasterLabs.com

**Sample Description:** SSVP20625131310 Composite Air  
Summa Can# 856  
3483 / Superior Tube, PA

LL Sample # AQ 7110108  
LL Group # 1400350  
Account # 07039

**Project Name:** 3483 / Superior Tube, PA

Collected: 06/25/2013 13:10 by JS

Environmental Alliance, Inc.

through 06/26/2013 13:10

5341 Limestone Rd

Submitted: 06/27/2013 18:10

Wilmington DE 19808

Reported: 07/03/2013 16:10

CAT No.	Analysis Name	CAS Number	As Received Final Result	MDL	As Received Final Result	MDL	DF
<b>Volatiles in Air</b>	<b>EPA TO-15</b>		<b>ppb(v)</b>	<b>ppb(v)</b>	<b>ug/m3</b>	<b>ug/m3</b>	
05298	Acetone	67-64-1	18	0.50	42	1.2	1
05298	Acetonitrile	75-05-8	N.D.	0.50	N.D.	0.84	1
05298	Acrolein	107-02-8	N.D.	0.50	N.D.	1.1	1
05298	Acrylonitrile	107-13-1	N.D.	0.50	N.D.	1.1	1
05298	Benzene	71-43-2	0.42 J	0.20	1.3 J	0.64	1
05298	Bromobenzene	108-86-1	N.D.	0.20	N.D.	1.3	1
05298	Bromodichloromethane	75-27-4	N.D.	0.20	N.D.	1.3	1
05298	Bromoform	75-25-2	N.D.	0.20	N.D.	2.1	1
05298	Bromomethane	74-83-9	N.D.	0.20	N.D.	0.78	1
05298	1,3-Butadiene	106-99-0	N.D.	0.50	N.D.	1.1	1
05298	2-Butanone	78-93-3	1.1 J	0.50	3.2 J	1.5	1
05298	tert-Butyl Alcohol	75-65-0	N.D.	0.50	N.D.	1.5	1
05298	Carbon Disulfide	75-15-0	N.D.	0.50	N.D.	1.6	1
05298	Carbon Tetrachloride	56-23-5	N.D.	0.20	N.D.	1.3	1
05298	Chlorobenzene	108-90-7	N.D.	0.20	N.D.	0.92	1
05298	Chlorodifluoromethane	75-45-6	N.D.	0.20	N.D.	0.71	1
05298	Chloroethane	75-00-3	N.D.	0.20	N.D.	0.53	1
05298	Chloroform	67-66-3	0.50 J	0.20	2.4 J	0.98	1
05298	Chloromethane	74-87-3	N.D.	0.20	N.D.	0.41	1
05298	3-Chloropropene	107-05-1	N.D.	0.20	N.D.	0.63	1
05298	Cumene	98-82-8	N.D.	0.20	N.D.	0.98	1
05298	Dibromochloromethane	124-48-1	N.D.	0.20	N.D.	1.7	1
05298	1,2-Dibromoethane	106-93-4	N.D.	0.20	N.D.	1.5	1
05298	Dibromomethane	74-95-3	N.D.	0.20	N.D.	1.4	1
05298	1,2-Dichlorobenzene	95-50-1	N.D.	0.20	N.D.	1.2	1
05298	1,3-Dichlorobenzene	541-73-1	N.D.	0.20	N.D.	1.2	1
05298	1,4-Dichlorobenzene	106-46-7	N.D.	0.20	N.D.	1.2	1
05298	Dichlorodifluoromethane	75-71-8	8.1	0.20	40	0.99	1
05298	1,1-Dichloroethane	75-34-3	N.D.	0.20	N.D.	0.81	1
05298	1,2-Dichloroethane	107-06-2	N.D.	0.20	N.D.	0.81	1
05298	1,1-Dichloroethene	75-35-4	N.D.	0.20	N.D.	0.79	1
05298	cis-1,2-Dichloroethene	156-59-2	N.D.	0.20	N.D.	0.79	1
05298	trans-1,2-Dichloroethene	156-60-5	N.D.	0.20	N.D.	0.79	1
05298	Dichlorofluoromethane	75-43-4	N.D.	0.20	N.D.	0.84	1
05298	1,2-Dichloropropane	78-87-5	N.D.	0.20	N.D.	0.92	1
05298	cis-1,3-Dichloropropene	10061-01-5	N.D.	0.20	N.D.	0.91	1
05298	trans-1,3-Dichloropropene	10061-02-6	N.D.	0.20	N.D.	0.91	1
05298	1,4-Dioxane	123-91-1	N.D.	0.50	N.D.	1.8	1
05298	Ethyl Acetate	141-78-6	1.4	0.50	5.1	1.8	1
05298	Ethyl Acrylate	140-88-5	N.D.	0.20	N.D.	0.82	1
05298	Ethyl Methacrylate	97-63-2	N.D.	0.20	N.D.	0.93	1
05298	Ethylbenzene	100-41-4	N.D.	0.20	N.D.	0.87	1
05298	4-Ethyltoluene	622-96-8	N.D.	0.20	N.D.	0.98	1
05298	Freon 113	76-13-1	N.D.	0.50	N.D.	3.8	1
05298	Freon 114	76-14-2	N.D.	0.20	N.D.	1.4	1
05298	Heptane	142-82-5	N.D.	0.20	N.D.	0.82	1
05298	Hexachlorobutadiene	87-68-3	N.D.	0.50	N.D.	5.3	1
05298	Hexachloroethane	67-72-1	N.D.	0.20	N.D.	1.9	1
05298	Hexane	110-54-3	N.D.	0.20	N.D.	0.70	1
05298	2-Hexanone	591-78-6	N.D.	0.50	N.D.	2.0	1
05298	Isooctane	540-84-1	N.D.	0.20	N.D.	0.93	1



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# Analysis Report

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**Sample Description:** SSVP20625131310 Composite Air  
Summa Can# 856  
3483 / Superior Tube, PA

LL Sample # AQ 7110108  
LL Group # 1400350  
Account # 07039

**Project Name:** 3483 / Superior Tube, PA

Collected: 06/25/2013 13:10 by JS

Environmental Alliance, Inc.

through 06/26/2013 13:10

5341 Limestone Rd

Submitted: 06/27/2013 18:10

Wilmington DE 19808

Reported: 07/03/2013 16:10

CAT No.	Analysis Name	CAS Number	As Received Final Result	MDL	As Received Final Result	MDL	DF
<b>Volatiles in Air      EPA TO-15</b>							
05298	Methyl Acrylate	96-33-3	N.D.	0.20	N.D.	0.70	1
05298	Methyl Iodide	74-88-4	N.D.	0.20	N.D.	1.2	1
05298	Methyl Methacrylate	80-62-6	N.D.	0.20	N.D.	0.82	1
05298	Alpha Methyl Styrene	98-83-9	N.D.	0.20	N.D.	0.97	1
05298	Methyl t-Butyl Ether	1634-04-4	0.39 J	0.20	1.4 J	0.72	1
05298	4-Methyl-2-Pentanone	108-10-1	N.D.	0.50	N.D.	2.0	1
05298	Methylene Chloride	75-09-2	0.48 J	0.20	1.7 J	0.69	1
05298	Octane	111-65-9	N.D.	0.20	N.D.	0.93	1
05298	Pentane	109-66-0	1.2	0.20	3.7	0.59	1
05298	Propene	115-07-1	N.D.	0.20	N.D.	0.34	1
05298	Styrene	100-42-5	N.D.	0.20	N.D.	0.85	1
05298	1,1,2,2-Tetrachloroethane	630-20-6	N.D.	0.20	N.D.	1.4	1
05298	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	0.20	N.D.	1.4	1
05298	Tetrachloroethene	127-18-4	N.D.	0.20	N.D.	1.4	1
05298	Toluene	108-88-3	0.41 J	0.20	1.5 J	0.75	1
05298	1,2,4-Trichlorobenzene	120-82-1	N.D.	0.50	N.D.	3.7	1
05298	1,1,1-Trichloroethane	71-55-6	N.D.	0.20	N.D.	1.1	1
05298	1,1,2-Trichloroethane	79-00-5	N.D.	0.20	N.D.	1.1	1
05298	Trichloroethene	79-01-6	N.D.	0.20	N.D.	1.1	1
05298	Trichlorofluoromethane	75-69-4	N.D.	0.20	N.D.	1.1	1
05298	1,2,3-Trichloropropane	96-18-4	N.D.	0.20	N.D.	1.2	1
05298	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.20	N.D.	0.98	1
05298	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.20	N.D.	0.98	1
05298	Vinyl Acetate	108-05-4	N.D.	0.50	N.D.	1.8	1
05298	Vinyl Chloride	75-01-4	N.D.	0.20	N.D.	0.51	1
05298	m/p-Xylene	179601-23-1	0.31 J	0.20	1.3 J	0.87	1
05298	o-Xylene	95-47-6	N.D.	0.20	N.D.	0.87	1

MDL = Method Detection Limit

### General Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/14.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

### Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
05298	TO-15 Extended List	EPA TO-15	1	D1318130AB	07/02/2013 03:35	Michael A Ziegler	1

**Sample Description:** Outdoor\_Ambient0625131340 Composite Air  
Summa Can# 896  
3483 / Superior Tube, PA

LL Sample # AQ 7110109  
LL Group # 1400350  
Account # 07039

**Project Name:** 3483 / Superior Tube, PA

Collected: 06/25/2013 13:40 by JS

Environmental Alliance, Inc.

through 06/26/2013 13:40

5341 Limestone Rd

Submitted: 06/27/2013 18:10

Wilmington DE 19808

Reported: 07/03/2013 16:10

CAT No.	Analysis Name	CAS Number	As Received Final Result	MDL	As Received Final Result	MDL	DF
	<b>Volatiles in Air</b>	EPA TO-15	ppb(v)	ppb(v)	ug/m3	ug/m3	
05298	Acetone	67-64-1	6.8	0.50	16	1.2	1
05298	Acetonitrile	75-05-8	N.D.	0.50	N.D.	0.84	1
05298	Acrolein	107-02-8	N.D.	0.50	N.D.	1.1	1
05298	Acrylonitrile	107-13-1	N.D.	0.50	N.D.	1.1	1
05298	Benzene	71-43-2	N.D.	0.20	N.D.	0.64	1
05298	Bromobenzene	108-86-1	N.D.	0.20	N.D.	1.3	1
05298	Bromodichloromethane	75-27-4	N.D.	0.20	N.D.	1.3	1
05298	Bromoform	75-25-2	N.D.	0.20	N.D.	2.1	1
05298	Bromomethane	74-83-9	N.D.	0.20	N.D.	0.78	1
05298	1,3-Butadiene	106-99-0	N.D.	0.50	N.D.	1.1	1
05298	2-Butanone	78-93-3	0.58 J	0.50	1.7 J	1.5	1
05298	tert-Butyl Alcohol	75-65-0	N.D.	0.50	N.D.	1.5	1
05298	Carbon Disulfide	75-15-0	N.D.	0.50	N.D.	1.6	1
05298	Carbon Tetrachloride	56-23-5	N.D.	0.20	N.D.	1.3	1
05298	Chlorobenzene	108-90-7	N.D.	0.20	N.D.	0.92	1
05298	Chlorodifluoromethane	75-45-6	N.D.	0.20	N.D.	0.71	1
05298	Chloroethane	75-00-3	N.D.	0.20	N.D.	0.53	1
05298	Chloroform	67-66-3	N.D.	0.20	N.D.	0.98	1
05298	Chloromethane	74-87-3	0.58 J	0.20	1.2 J	0.41	1
05298	3-Chloropropene	107-05-1	N.D.	0.20	N.D.	0.63	1
05298	Cumene	98-82-8	N.D.	0.20	N.D.	0.98	1
05298	Dibromochloromethane	124-48-1	N.D.	0.20	N.D.	1.7	1
05298	1,2-Dibromoethane	106-93-4	N.D.	0.20	N.D.	1.5	1
05298	Dibromomethane	74-95-3	N.D.	0.20	N.D.	1.4	1
05298	1,2-Dichlorobenzene	95-50-1	N.D.	0.20	N.D.	1.2	1
05298	1,3-Dichlorobenzene	541-73-1	N.D.	0.20	N.D.	1.2	1
05298	1,4-Dichlorobenzene	106-46-7	N.D.	0.20	N.D.	1.2	1
05298	Dichlorodifluoromethane	75-71-8	0.59 J	0.20	2.9 J	0.99	1
05298	1,1-Dichloroethane	75-34-3	N.D.	0.20	N.D.	0.81	1
05298	1,2-Dichloroethane	107-06-2	N.D.	0.20	N.D.	0.81	1
05298	1,1-Dichloroethene	75-35-4	N.D.	0.20	N.D.	0.79	1
05298	cis-1,2-Dichloroethene	156-59-2	N.D.	0.20	N.D.	0.79	1
05298	trans-1,2-Dichloroethene	156-60-5	N.D.	0.20	N.D.	0.79	1
05298	Dichlorofluoromethane	75-43-4	N.D.	0.20	N.D.	0.84	1
05298	1,2-Dichloropropane	78-87-5	N.D.	0.20	N.D.	0.92	1
05298	cis-1,3-Dichloropropene	10061-01-5	N.D.	0.20	N.D.	0.91	1
05298	trans-1,3-Dichloropropene	10061-02-6	N.D.	0.20	N.D.	0.91	1
05298	1,4-Dioxane	123-91-1	N.D.	0.50	N.D.	1.8	1
05298	Ethyl Acetate	141-78-6	N.D.	0.50	N.D.	1.8	1
05298	Ethyl Acrylate	140-88-5	N.D.	0.20	N.D.	0.82	1
05298	Ethyl Methacrylate	97-63-2	N.D.	0.20	N.D.	0.93	1
05298	Ethylbenzene	100-41-4	N.D.	0.20	N.D.	0.87	1
05298	4-Ethyltoluene	622-96-8	N.D.	0.20	N.D.	0.98	1
05298	Freon 113	76-13-1	N.D.	0.50	N.D.	3.8	1
05298	Freon 114	76-14-2	N.D.	0.20	N.D.	1.4	1
05298	Heptane	142-82-5	N.D.	0.20	N.D.	0.82	1
05298	Hexachlorobutadiene	87-68-3	N.D.	0.50	N.D.	5.3	1
05298	Hexachloroethane	67-72-1	N.D.	0.20	N.D.	1.9	1
05298	Hexane	110-54-3	0.27 J	0.20	0.97 J	0.70	1
05298	2-Hexanone	591-78-6	N.D.	0.50	N.D.	2.0	1
05298	Isooctane	540-84-1	N.D.	0.20	N.D.	0.93	1



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# Analysis Report

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Sample Description: Outdoor\_Ambient0625131340 Composite Air  
Summa Can# 896  
3483 / Superior Tube, PA

LL Sample # AQ 7110109  
LL Group # 1400350  
Account # 07039

Project Name: 3483 / Superior Tube, PA

Collected: 06/25/2013 13:40 by JS  
through 06/26/2013 13:40  
Submitted: 06/27/2013 18:10  
Reported: 07/03/2013 16:10

Environmental Alliance, Inc.  
5341 Limestone Rd  
Wilmington DE 19808

CAT No.	Analysis Name	CAS Number	As Received Final Result	MDL	As Received Final Result	MDL	DF
<b>Volatiles in Air      EPA TO-15</b>							
05298	Methyl Acrylate	96-33-3	N.D.	0.20	N.D.	0.70	1
05298	Methyl Iodide	74-88-4	N.D.	0.20	N.D.	1.2	1
05298	Methyl Methacrylate	80-62-6	N.D.	0.20	N.D.	0.82	1
05298	Alpha Methyl Styrene	98-83-9	N.D.	0.20	N.D.	0.97	1
05298	Methyl t-Butyl Ether	1634-04-4	N.D.	0.20	N.D.	0.72	1
05298	4-Methyl-2-Pentanone	108-10-1	N.D.	0.50	N.D.	2.0	1
05298	Methylene Chloride	75-09-2	0.85 J	0.20	3.0 J	0.69	1
05298	Octane	111-65-9	N.D.	0.20	N.D.	0.93	1
05298	Pentane	109-66-0	0.68 J	0.20	2.0 J	0.59	1
05298	Propene	115-07-1	0.83 J	0.20	1.4 J	0.34	1
05298	Styrene	100-42-5	N.D.	0.20	N.D.	0.85	1
05298	1,1,2,2-Tetrachloroethane	630-20-6	N.D.	0.20	N.D.	1.4	1
05298	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	0.20	N.D.	1.4	1
05298	Tetrachloroethene	127-18-4	N.D.	0.20	N.D.	1.4	1
05298	Toluene	108-88-3	0.32 J	0.20	1.2 J	0.75	1
05298	1,2,4-Trichlorobenzene	120-82-1	N.D.	0.50	N.D.	3.7	1
05298	1,1,1-Trichloroethane	71-55-6	N.D.	0.20	N.D.	1.1	1
05298	1,1,2-Trichloroethane	79-00-5	N.D.	0.20	N.D.	1.1	1
05298	Trichloroethene	79-01-6	N.D.	0.20	N.D.	1.1	1
05298	Trichlorofluoromethane	75-69-4	0.25 J	0.20	1.4 J	1.1	1
05298	1,2,3-Trichloropropane	96-18-4	N.D.	0.20	N.D.	1.2	1
05298	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.20	N.D.	0.98	1
05298	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.20	N.D.	0.98	1
05298	Vinyl Acetate	108-05-4	N.D.	0.50	N.D.	1.8	1
05298	Vinyl Chloride	75-01-4	N.D.	0.20	N.D.	0.51	1
05298	m/p-Xylene	179601-23-1	N.D.	0.20	N.D.	0.87	1
05298	o-Xylene	95-47-6	N.D.	0.20	N.D.	0.87	1

MDL = Method Detection Limit

## General Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/14.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

## Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
05298	TO-15 Extended List	EPA TO-15	1	D1318130AB	07/02/2013 04:23	Michael A Ziegler	1

**Sample Description:** Indoor\_Ambient0625131320 Composite Air  
Summa Can# 1127  
3483 / Superior Tube, PA

LL Sample # AQ 7110110  
LL Group # 1400350  
Account # 07039

**Project Name:** 3483 / Superior Tube, PA

Collected: 06/25/2013 13:20 by JS

through 06/26/2013 13:20

Submitted: 06/27/2013 18:10

Reported: 07/03/2013 16:10

Environmental Alliance, Inc.

5341 Limestone Rd

Wilmington DE 19808

CAT No.	Analysis Name	CAS Number	As Received Final Result	MDL	As Received Final Result	MDL	DF
	<b>Volatiles in Air</b>	EPA TO-15	ppb(v)	ppb(v)	ug/m3	ug/m3	
05298	Acetone	67-64-1	65	0.50	160	1.2	1
05298	Acetonitrile	75-05-8	N.D.	0.50	N.D.	0.84	1
05298	Acrolein	107-02-8	N.D.	0.50	N.D.	1.1	1
05298	Acrylonitrile	107-13-1	N.D.	0.50	N.D.	1.1	1
05298	Benzene	71-43-2	1.9	0.20	6.2	0.64	1
05298	Bromobenzene	108-86-1	N.D.	0.20	N.D.	1.3	1
05298	Bromodichloromethane	75-27-4	N.D.	0.20	N.D.	1.3	1
05298	Bromoform	75-25-2	N.D.	0.20	N.D.	2.1	1
05298	Bromomethane	74-83-9	N.D.	0.20	N.D.	0.78	1
05298	1,3-Butadiene	106-99-0	N.D.	0.50	N.D.	1.1	1
05298	2-Butanone	78-93-3	3.2	0.50	9.4	1.5	1
05298	tert-Butyl Alcohol	75-65-0	N.D.	0.50	N.D.	1.5	1
05298	Carbon Disulfide	75-15-0	N.D.	0.50	N.D.	1.6	1
05298	Carbon Tetrachloride	56-23-5	N.D.	0.20	N.D.	1.3	1
05298	Chlorobenzene	108-90-7	N.D.	0.20	N.D.	0.92	1
05298	Chlorodifluoromethane	75-45-6	N.D.	0.20	N.D.	0.71	1
05298	Chloroethane	75-00-3	N.D.	0.20	N.D.	0.53	1
05298	Chloroform	67-66-3	1.3	0.20	6.3	0.98	1
05298	Chloromethane	74-87-3	0.74 J	0.20	1.5 J	0.41	1
05298	3-Chloropropene	107-05-1	N.D.	0.20	N.D.	0.63	1
05298	Cumene	98-82-8	N.D.	0.20	N.D.	0.98	1
05298	Dibromochloromethane	124-48-1	N.D.	0.20	N.D.	1.7	1
05298	1,2-Dibromoethane	106-93-4	N.D.	0.20	N.D.	1.5	1
05298	Dibromomethane	74-95-3	N.D.	0.20	N.D.	1.4	1
05298	1,2-Dichlorobenzene	95-50-1	N.D.	0.20	N.D.	1.2	1
05298	1,3-Dichlorobenzene	541-73-1	N.D.	0.20	N.D.	1.2	1
05298	1,4-Dichlorobenzene	106-46-7	N.D.	0.20	N.D.	1.2	1
05298	Dichlorodifluoromethane	75-71-8	3.1	0.20	15	0.99	1
05298	1,1-Dichloroethane	75-34-3	N.D.	0.20	N.D.	0.81	1
05298	1,2-Dichloroethane	107-06-2	0.39 J	0.20	1.6 J	0.81	1
05298	1,1-Dichloroethene	75-35-4	N.D.	0.20	N.D.	0.79	1
05298	cis-1,2-Dichloroethene	156-59-2	N.D.	0.20	N.D.	0.79	1
05298	trans-1,2-Dichloroethene	156-60-5	N.D.	0.20	N.D.	0.79	1
05298	Dichlorofluoromethane	75-43-4	N.D.	0.20	N.D.	0.84	1
05298	1,2-Dichloropropane	78-87-5	N.D.	0.20	N.D.	0.92	1
05298	cis-1,3-Dichloropropene	10061-01-5	N.D.	0.20	N.D.	0.91	1
05298	trans-1,3-Dichloropropene	10061-02-6	N.D.	0.20	N.D.	0.91	1
05298	1,4-Dioxane	123-91-1	N.D.	0.50	N.D.	1.8	1
05298	Ethyl Acetate	141-78-6	12	0.50	43	1.8	1
05298	Ethyl Acrylate	140-88-5	N.D.	0.20	N.D.	0.82	1
05298	Ethyl Methacrylate	97-63-2	N.D.	0.20	N.D.	0.93	1
05298	Ethylbenzene	100-41-4	1.5	0.20	6.7	0.87	1
05298	4-Ethyltoluene	622-96-8	0.48 J	0.20	2.4 J	0.98	1
05298	Freon 113	76-13-1	N.D.	0.50	N.D.	3.8	1
05298	Freon 114	76-14-2	0.36 J	0.20	2.5 J	1.4	1
05298	Heptane	142-82-5	1.9	0.20	7.8	0.82	1
05298	Hexachlorobutadiene	87-68-3	N.D.	0.50	N.D.	5.3	1
05298	Hexachloroethane	67-72-1	N.D.	0.20	N.D.	1.9	1
05298	Hexane	110-54-3	6.4	0.20	23	0.70	1
05298	2-Hexanone	591-78-6	N.D.	0.50	N.D.	2.0	1
05298	Isooctane	540-84-1	1.6	0.20	7.7	0.93	1



Lancaster Laboratories  
Environmental

# Analysis Report

2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-2681 • www.LancasterLabs.com

Sample Description: Indoor\_Ambient0625131320 Composite Air  
Summa Can# 1127  
3483 / Superior Tube, PA

LL Sample # AQ 7110110  
LL Group # 1400350  
Account # 07039

Project Name: 3483 / Superior Tube, PA

Collected: 06/25/2013 13:20 by JS

Environmental Alliance, Inc.

through 06/26/2013 13:20

5341 Limestone Rd

Submitted: 06/27/2013 18:10

Wilmington DE 19808

Reported: 07/03/2013 16:10

CAT No.	Analysis Name	CAS Number	As Received Final Result	MDL	As Received Final Result	MDL	DF
<b>Volatiles in Air      EPA TO-15</b>							
05298	Methyl Acrylate	96-33-3	N.D.	0.20	N.D.	0.70	1
05298	Methyl Iodide	74-88-4	N.D.	0.20	N.D.	1.2	1
05298	Methyl Methacrylate	80-62-6	N.D.	0.20	N.D.	0.82	1
05298	Alpha Methyl Styrene	98-83-9	N.D.	0.20	N.D.	0.97	1
05298	Methyl t-Butyl Ether	1634-04-4	N.D.	0.20	N.D.	0.72	1
05298	4-Methyl-2-Pentanone	108-10-1	N.D.	0.50	N.D.	2.0	1
05298	Methylene Chloride	75-09-2	3.5	0.20	12	0.69	1
05298	Octane	111-65-9	0.73 J	0.20	3.4 J	0.93	1
05298	Pentane	109-66-0	23	0.20	67	0.59	1
05298	Propene	115-07-1	7.7	0.20	13	0.34	1
05298	Styrene	100-42-5	0.55 J	0.20	2.3 J	0.85	1
05298	1,1,1,2-Tetrachloroethane	630-20-6	N.D.	0.20	N.D.	1.4	1
05298	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	0.20	N.D.	1.4	1
05298	Tetrachloroethene	127-18-4	N.D.	0.20	N.D.	1.4	1
05298	Toluene	108-88-3	14	0.20	53	0.75	1
05298	1,2,4-Trichlorobenzene	120-82-1	N.D.	0.50	N.D.	3.7	1
05298	1,1,1-Trichloroethane	71-55-6	N.D.	0.20	N.D.	1.1	1
05298	1,1,2-Trichloroethane	79-00-5	N.D.	0.20	N.D.	1.1	1
05298	Trichloroethene	79-01-6	N.D.	0.20	N.D.	1.1	1
05298	Trichlorofluoromethane	75-69-4	7.1	0.20	40	1.1	1
05298	1,2,3-Trichloropropane	96-18-4	N.D.	0.20	N.D.	1.2	1
05298	1,2,4-Trimethylbenzene	95-63-6	2.1	0.20	10	0.98	1
05298	1,3,5-Trimethylbenzene	108-67-8	0.53 J	0.20	2.6 J	0.98	1
05298	Vinyl Acetate	108-05-4	N.D.	0.50	N.D.	1.8	1
05298	Vinyl Chloride	75-01-4	N.D.	0.20	N.D.	0.51	1
05298	m/p-Xylene	179601-23-1	7.8	0.20	34	0.87	1
05298	o-Xylene	95-47-6	2.6	0.20	11	0.87	1

MDL = Method Detection Limit

## General Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/14.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

## Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
05298	TO-15 Extended List	EPA TO-15	1	D1318130AB	07/02/2013 05:11	Michael A Ziegler	1

**Sample Description:** Trip\_Blank062513 Air  
Summa Can# 822  
3483 / Superior Tube, PA

LL Sample # AQ 7110111  
LL Group # 1400350  
Account # 07039

**Project Name:** 3483 / Superior Tube, PA

Collected: 06/25/2013

Environmental Alliance, Inc.

Submitted: 06/27/2013 18:10

5341 Limestone Rd  
Wilmington DE 19808

Reported: 07/03/2013 16:10

CAT No.	Analysis Name	CAS Number	As Received Final Result	MDL	As Received Final Result	MDL	DF
<b>Volatiles in Air</b>	<b>EPA TO-15</b>		ppb(v)	ppb(v)	ug/m3	ug/m3	
05298	Acetone	67-64-1	N.D.	0.50	N.D.	1.2	1
05298	Acetonitrile	75-05-8	N.D.	0.50	N.D.	0.84	1
05298	Acrolein	107-02-8	N.D.	0.50	N.D.	1.1	1
05298	Acrylonitrile	107-13-1	N.D.	0.50	N.D.	1.1	1
05298	Benzene	71-43-2	N.D.	0.20	N.D.	0.64	1
05298	Bromobenzene	108-86-1	N.D.	0.20	N.D.	1.3	1
05298	Bromodichloromethane	75-27-4	N.D.	0.20	N.D.	1.3	1
05298	Bromoform	75-25-2	N.D.	0.20	N.D.	2.1	1
05298	Bromomethane	74-83-9	N.D.	0.20	N.D.	0.78	1
05298	1,3-Butadiene	106-99-0	N.D.	0.50	N.D.	1.1	1
05298	2-Butanone	78-93-3	N.D.	0.50	N.D.	1.5	1
05298	tert-Butyl Alcohol	75-65-0	N.D.	0.50	N.D.	1.5	1
05298	Carbon Disulfide	75-15-0	N.D.	0.50	N.D.	1.6	1
05298	Carbon Tetrachloride	56-23-5	N.D.	0.20	N.D.	1.3	1
05298	Chlorobenzene	108-90-7	N.D.	0.20	N.D.	0.92	1
05298	Chlorodifluoromethane	75-45-6	N.D.	0.20	N.D.	0.71	1
05298	Chloroethane	75-00-3	N.D.	0.20	N.D.	0.53	1
05298	Chloroform	67-66-3	N.D.	0.20	N.D.	0.98	1
05298	Chloromethane	74-87-3	N.D.	0.20	N.D.	0.41	1
05298	3-Chloropropene	107-05-1	N.D.	0.20	N.D.	0.63	1
05298	Cumene	98-82-8	N.D.	0.20	N.D.	0.98	1
05298	Dibromochloromethane	124-48-1	N.D.	0.20	N.D.	1.7	1
05298	1,2-Dibromoethane	106-93-4	N.D.	0.20	N.D.	1.5	1
05298	Dibromomethane	74-95-3	N.D.	0.20	N.D.	1.4	1
05298	1,2-Dichlorobenzene	95-50-1	N.D.	0.20	N.D.	1.2	1
05298	1,3-Dichlorobenzene	541-73-1	N.D.	0.20	N.D.	1.2	1
05298	1,4-Dichlorobenzene	106-46-7	N.D.	0.20	N.D.	1.2	1
05298	Dichlorodifluoromethane	75-71-8	N.D.	0.20	N.D.	0.99	1
05298	1,1-Dichloroethane	75-34-3	N.D.	0.20	N.D.	0.81	1
05298	1,2-Dichloroethane	107-06-2	N.D.	0.20	N.D.	0.81	1
05298	1,1-Dichloroethene	75-35-4	N.D.	0.20	N.D.	0.79	1
05298	cis-1,2-Dichloroethene	156-59-2	N.D.	0.20	N.D.	0.79	1
05298	trans-1,2-Dichloroethene	156-60-5	N.D.	0.20	N.D.	0.79	1
05298	Dichlorofluoromethane	75-43-4	N.D.	0.20	N.D.	0.84	1
05298	1,2-Dichloropropane	78-87-5	N.D.	0.20	N.D.	0.92	1
05298	cis-1,3-Dichloropropene	10061-01-5	N.D.	0.20	N.D.	0.91	1
05298	trans-1,3-Dichloropropene	10061-02-6	N.D.	0.20	N.D.	0.91	1
05298	1,4-Dioxane	123-91-1	N.D.	0.50	N.D.	1.8	1
05298	Ethyl Acetate	141-78-6	N.D.	0.50	N.D.	1.8	1
05298	Ethyl Acrylate	140-88-5	N.D.	0.20	N.D.	0.82	1
05298	Ethyl Methacrylate	97-63-2	N.D.	0.20	N.D.	0.93	1
05298	Ethylbenzene	100-41-4	N.D.	0.20	N.D.	0.87	1
05298	4-Ethyltoluene	622-96-8	N.D.	0.20	N.D.	0.98	1
05298	Freon 113	76-13-1	N.D.	0.50	N.D.	3.8	1
05298	Freon 114	76-14-2	N.D.	0.20	N.D.	1.4	1
05298	Heptane	142-82-5	N.D.	0.20	N.D.	0.82	1
05298	Hexachlorobutadiene	87-68-3	N.D.	0.50	N.D.	5.3	1
05298	Hexachloroethane	67-72-1	N.D.	0.20	N.D.	1.9	1
05298	Hexane	110-54-3	N.D.	0.20	N.D.	0.70	1
05298	2-Hexanone	591-78-6	N.D.	0.50	N.D.	2.0	1
05298	Isooctane	540-84-1	N.D.	0.20	N.D.	0.93	1



Lancaster Laboratories  
Environmental

# **Analysis Report**

2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-2681 • www.LancasterLabs.com

Sample Description: Trip\_Blank062513 Air  
Summa Can# 822  
3483 / Superior Tube, PA

LL Sample # AQ 7110111  
LL Group # 1400350  
Account # 07039

Project Name: 3483 / Superior Tube, PA

Collected: 06/25/2013

Environmental Alliance, Inc.

Submitted: 06/27/2013 18:10

5341 Limestone Rd  
Wilmington DE 19808

Reported: 07/03/2013 16:10

CAT No.	Analysis Name	CAS Number	As Received Final Result	MDL	As Received Final Result	MDL	DF
	<b>Volatiles in Air</b>	EPA TO-15	ppb(v)	ppb(v)	ug/m3	ug/m3	
05298	Methyl Acrylate	96-33-3	N.D.	0.20	N.D.	0.70	1
05298	Methyl Iodide	74-88-4	N.D.	0.20	N.D.	1.2	1
05298	Methyl Methacrylate	80-62-6	N.D.	0.20	N.D.	0.82	1
05298	Alpha Methyl Styrene	98-83-9	N.D.	0.20	N.D.	0.97	1
05298	Methyl t-Butyl Ether	1634-04-4	N.D.	0.20	N.D.	0.72	1
05298	4-Methyl-2-Pentanone	108-10-1	N.D.	0.50	N.D.	2.0	1
05298	Methylene Chloride	75-09-2	N.D.	0.20	N.D.	0.69	1
05298	Octane	111-65-9	N.D.	0.20	N.D.	0.93	1
05298	Pentane	109-66-0	N.D.	0.20	N.D.	0.59	1
05298	Propene	115-07-1	N.D.	0.20	N.D.	0.34	1
05298	Styrene	100-42-5	N.D.	0.20	N.D.	0.85	1
05298	1,1,2,2-Tetrachloroethane	630-20-6	N.D.	0.20	N.D.	1.4	1
05298	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	0.20	N.D.	1.4	1
05298	Tetrachloroethene	127-18-4	N.D.	0.20	N.D.	1.4	1
05298	Toluene	108-88-3	N.D.	0.20	N.D.	0.75	1
05298	1,2,4-Trichlorobenzene	120-82-1	N.D.	0.50	N.D.	3.7	1
05298	1,1,1-Trichloroethane	71-55-6	N.D.	0.20	N.D.	1.1	1
05298	1,1,2-Trichloroethane	79-00-5	N.D.	0.20	N.D.	1.1	1
05298	Trichloroethene	79-01-6	N.D.	0.20	N.D.	1.1	1
05298	Trichlorofluoromethane	75-69-4	N.D.	0.20	N.D.	1.1	1
05298	1,2,3-Trichloropropane	96-18-4	N.D.	0.20	N.D.	1.2	1
05298	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.20	N.D.	0.98	1
05298	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.20	N.D.	0.98	1
05298	Vinyl Acetate	108-05-4	N.D.	0.50	N.D.	1.8	1
05298	Vinyl Chloride	75-01-4	N.D.	0.20	N.D.	0.51	1
05298	m/p-Xylene	179601-23-1	N.D.	0.20	N.D.	0.87	1
05298	o-Xylene	95-47-6	N.D.	0.20	N.D.	0.87	1

MDL = Method Detection Limit

### General Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/14.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

### Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
05298	TO-15 Extended List	EPA TO-15	1	D1318130AB	07/02/2013 05:56	Michael A Ziegler	1

## Quality Control Summary

Client Name: Environmental Alliance, Inc.  
Reported: 07/03/13 at 04:10 PM

Group Number: 1400350

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

### Laboratory Compliance Quality Control

<u>Analysis Name</u>	<u>Blank Result</u>	<u>Blank MDL</u>	<u>Report Units</u>	<u>LCS %REC</u>	<u>LCSD %REC</u>	<u>LCS/LCSD Limits</u>	<u>RPD</u>	<u>RPD Max</u>
Batch number: D1318130AB			Sample number(s): 7110106-7110111					
Acetone	N.D.	0.50	ppb(v)	79	89	61-134	13	25
Acetonitrile	N.D.	0.50	ppb(v)					
Acrolein	N.D.	0.50	ppb(v)	82	87	57-127	6	25
Acrylonitrile	N.D.	0.50	ppb(v)					
Benzene	N.D.	0.20	ppb(v)	81	87	70-130	7	25
Bromobenzene	N.D.	0.20	ppb(v)					
Bromodichloromethane	N.D.	0.20	ppb(v)	82	84	70-129	3	25
Bromoform	N.D.	0.20	ppb(v)	88	91	64-141	3	25
Bromomethane	N.D.	0.20	ppb(v)	90	94	70-130	4	25
1,3-Butadiene	N.D.	0.40	ppb(v)	92	97	66-129	5	25
2-Butanone	N.D.	0.50	ppb(v)	82	97	55-131	17	25
tert-Butyl Alcohol	N.D.	0.50	ppb(v)					
Carbon Disulfide	N.D.	0.50	ppb(v)	92	96	57-107	4	25
Carbon Tetrachloride	N.D.	0.20	ppb(v)	85	89	70-130	5	25
Chlorobenzene	N.D.	0.20	ppb(v)	84	87	70-130	4	25
Chlorodifluoromethane	N.D.	0.20	ppb(v)					
Chloroethane	N.D.	0.20	ppb(v)	82	87	70-131	6	25
Chloroform	N.D.	0.20	ppb(v)	79	83	70-130	5	25
Chloromethane	N.D.	0.20	ppb(v)	87	87	64-133	0	25
3-Chloropropene	N.D.	0.20	ppb(v)					
Cumene	N.D.	0.20	ppb(v)					
Dibromochloromethane	N.D.	0.20	ppb(v)	87	89	65-127	2	25
1,2-Dibromoethane	N.D.	0.20	ppb(v)	89	91	65-126	3	25
Dibromomethane	N.D.	0.20	ppb(v)					
1,2-Dichlorobenzene	N.D.	0.20	ppb(v)	88	93	62-132	6	25
1,3-Dichlorobenzene	N.D.	0.20	ppb(v)	78	83	63-125	7	25
1,4-Dichlorobenzene	N.D.	0.20	ppb(v)	85	91	63-127	7	25
Dichlorodifluoromethane	N.D.	0.20	ppb(v)	98	100	69-143	2	25
1,1-Dichloroethane	N.D.	0.20	ppb(v)	83	87	67-124	4	25
1,2-Dichloroethane	N.D.	0.20	ppb(v)	87	90	70-130	4	25
1,1-Dichloroethene	N.D.	0.20	ppb(v)	90	94	64-119	5	25
cis-1,2-Dichloroethene	N.D.	0.20	ppb(v)	78	85	65-121	9	25
trans-1,2-Dichloroethene	N.D.	0.20	ppb(v)	83	88	66-121	7	25
Dichlorofluoromethane	N.D.	0.20	ppb(v)					
1,2-Dichloropropane	N.D.	0.20	ppb(v)	79	83	70-130	5	25
cis-1,3-Dichloropropene	N.D.	0.20	ppb(v)	95	101	64-125	6	25
trans-1,3-Dichloropropene	N.D.	0.20	ppb(v)	84	90	61-126	6	25
1,4-Dioxane	N.D.	0.50	ppb(v)	88	103	56-161	16	25
Ethyl Acetate	N.D.	1.0	ppb(v)	74	87	51-131	15	25
Ethyl Acrylate	N.D.	0.20	ppb(v)					
Ethyl Methacrylate	N.D.	0.20	ppb(v)					
Ethylbenzene	N.D.	0.20	ppb(v)	88	93	70-130	6	25
4-Ethyltoluene	N.D.	0.20	ppb(v)	84	92	59-126	9	25

\*- Outside of specification

- (1) The result for one or both determinations was less than five times the LOQ.  
(2) The unspiked result was more than four times the spike added.



Lancaster  
LaboratoriesEnvironmental Sample Administration *1400350*  
Receipt Documentation LogClient/Project: Eru AllianceShipping Container Sealed:  YES NODate of Receipt: 6/27/13Custody Seal Present\*: YES  NOTime of Receipt: 1610

\* Custody seal was intact unless otherwise noted in the discrepancy section

Source Code: 01Package: Chilled  Not Chilled 

Temperature of Shipping Containers							
Cooler #	Thermometer ID	Temperature (°C)	Temp Bottle (TB) or Surface Temp (ST)	Wet Ice (WI) or Dry Ice (DI) or Ice Packs (IP)	Ice Present? Y/N	Loose (L) Bagged Ice (B) or NA	Comments
1							
2							
3							
4							
5							
6							

Number of Trip Blanks received NOT listed on chain of custody: 0

## Paperwork Discrepancy/Unpacking Problems:

Rec'd S flow controllers  
Outdoor Ambient time stop > 1345

Unpacker Signature/Emp#: Pat Sh 3472 Date/Time: 6/27/13 1922

Issued by Dept. 6042 Management

2174.06

# Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

<b>RL</b>	Reporting Limit	<b>BMQL</b>	Below Minimum Quantitation Level
<b>N.D.</b>	none detected	<b>MPN</b>	Most Probable Number
<b>TNTC</b>	Too Numerous To Count	<b>CP Units</b>	cobalt-chloroplatinate units
<b>IU</b>	International Units	<b>NTU</b>	nephelometric turbidity units
<b>umhos/cm</b>	micromhos/cm	<b>ng</b>	nanogram(s)
<b>C</b>	degrees Celsius	<b>F</b>	degrees Fahrenheit
<b>meq</b>	milliequivalents	<b>lb.</b>	pound(s)
<b>g</b>	gram(s)	<b>kg</b>	kilogram(s)
<b>µg</b>	microgram(s)	<b>mg</b>	milligram(s)
<b>mL</b>	milliliter(s)	<b>L</b>	liter(s)
<b>m³</b>	cubic meter(s)	<b>µL</b>	microliter(s)
		<b>pg/L</b>	picogram/liter
<	less than - The number following the sign is the <u>limit of quantitation</u> , the smallest amount of analyte which can be reliably determined using this specific test.		
>	greater than		
<b>ppm</b>	parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg), or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas.		
<b>ppb</b>	parts per billion		
<b>Dry weight basis</b>	Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.		

**Data Qualifiers:**

**C** – result confirmed by reanalysis.

**J** - estimated value – The result is  $\geq$  the Method Detection Limit (MDL) and < the Limit of Quantitation (LOQ).

**U.S. EPA CLP Data Qualifiers:**

<b>Organic Qualifiers</b>		<b>Inorganic Qualifiers</b>	
<b>A</b>	TIC is a possible aldol-condensation product	<b>B</b>	Value is <CRDL, but $\geq$ IDL
<b>B</b>	Analyte was also detected in the blank	<b>E</b>	Estimated due to interference
<b>C</b>	Pesticide result confirmed by GC/MS	<b>M</b>	Duplicate injection precision not met
<b>D</b>	Compound quantitated on a diluted sample	<b>N</b>	Spike sample not within control limits
<b>E</b>	Concentration exceeds the calibration range of the instrument	<b>S</b>	Method of standard additions (MSA) used for calculation
<b>N</b>	Presumptive evidence of a compound (TICs only)	<b>U</b>	Compound was not detected
<b>P</b>	Concentration difference between primary and confirmation columns $>25\%$	<b>W</b>	Post digestion spike out of control limits
<b>U</b>	Compound was not detected	*	Duplicate analysis not within control limits
<b>X,Y,Z</b>	Defined in case narrative	+	Correlation coefficient for MSA $<0.995$

**Analytical test results meet all requirements of NELAC unless otherwise noted under the individual analysis.**

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff. This report shall not be reproduced except in full, without the written approval of the laboratory.

Times are local to the area of activity. Parameters listed in the 40 CFR part 136 Table II as "analyze immediately" are not performed within 15 minutes.

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**BUILDING SURVEY FORM**



New Jersey Department of Environmental Protection

INDOOR AIR BUILDING SURVEY  
and SAMPLING FORM

Preparer's name: Kevin Reisler Date: 6-14-13

Preparer's affiliation: \_\_\_\_\_ Phone #: \_\_\_\_\_

Site Name: \_\_\_\_\_ Case #: \_\_\_\_\_

Part I - Occupants

Building Address: 3927 Beth Dr / Crosskeys R.D Collegeville, Pa 19426

Property Contact: John W. Errington Owner / Renter / other: OWNER

Contact's Phone: home (410) 476-8760 work ( ) \_\_\_\_\_ cell ( ) \_\_\_\_\_

# of Building occupants: Children under age 13 \_\_\_\_\_ Children age 13-18 \_\_\_\_\_ Adults 3

Part II – Building Characteristics

Building type: residential / multi-family residential / office / strip mall / commercial / industrial

Describe building: Home Year constructed: 1983

Sensitive population: day care / nursing home / hospital / school / other (specify): \_\_\_\_\_

Number of floors below grade: \_\_\_\_\_ (full basement / crawl space slab on grade)

Number of floors at or above grade: 2

Depth of basement below grade surface: \_\_\_\_\_ ft. Basement size: \_\_\_\_\_ ft<sup>2</sup>

Basement floor construction: concrete / dirt / floating / stone / other (specify): \_\_\_\_\_

Foundation walls: poured concrete / cinder blocks / stone / other (specify) \_\_\_\_\_

Basement sump present? Yes / No Sump pump? Yes / No Water in sump? Yes / No

Type of heating system (circle all that apply):

hot air circulation

hot air radiation

wood

steam radiation

heat pump

hot water radiation

kerosene heater

electric baseboard

other (specify): \_\_\_\_\_

Type of ventilation system (circle all that apply):

central air conditioning

mechanical fans

bathroom ventilation fans individual air

conditioning units

kitchen range hood fan

outside air intake

other (specify): \_\_\_\_\_

Type of fuel utilized (circle all that apply):

Natural gas / electric / fuel oil / wood / coal / solar / kerosene

Are the basement walls or floor sealed with waterproof paint or epoxy coatings?

Yes / No

Is there a whole house fan? Yes / No

Septic system? Yes / Yes (but not used) / No

Irrigation/private well? Yes / Yes (but not used) / No

Type of ground cover outside of building: grass / concrete / asphalt / other (specify) \_\_\_\_\_

Existing subsurface depressurization (radon) system in place? Yes / No active / passive

Sub-slab vapor/moisture barrier in place? Yes / No

Type of barrier: \_\_\_\_\_

### Part III - Outside Contaminant Sources

NJDEP contaminated site (1000-ft. radius): \_\_\_\_\_

Other stationary sources nearby (gas stations, emission stacks, etc.): \_\_\_\_\_

Heavy vehicular traffic nearby (or other mobile sources): \_\_\_\_\_

### Part IV – Indoor Contaminant Sources

Identify all potential indoor sources found in the building (including attached garages), the location of the source (floor and room), and whether the item was removed from the building 48 hours prior to indoor air sampling event. Any ventilation implemented after removal of the items should be completed at least 24 hours prior to the commencement of the indoor air sampling event.

Potential Sources	Location(s)	Removed (Yes / No / NA)
Gasoline storage cans		NO
Gas-powered equipment		NO
Kerosene storage cans		NO
Paints / thinners / strippers		NO
Cleaning solvents		NO
Oven cleaners		NO
Carpet / upholstery cleaners		NO
Other house cleaning products		YES
Moth balls		NO
Polishes / waxes		NO
Insecticides		NO
Furniture / floor polish		NO
Nail polish / polish remover		NO
Hairspray		NO
Cologne / perfume		NO
Air fresheners		NA
Fuel tank (inside building)		NA
Wood stove or fireplace		NA
New furniture / upholstery		NO
New carpeting / flooring		NA
Hobbies - glues, paints, etc.		YES

Yes (1 gallon latex paint JS) 6/25/12

Yes (JS) Smoker find verify 6/25/12

#### Part V – Miscellaneous Items

Do any occupants of the building smoke? Yes  No How often? \_\_\_\_\_

Last time someone smoked in the building? \_\_\_\_\_ hours / days ago

Does the building have an attached garage directly connected to living space? Yes  No

If so, is a car usually parked in the garage? Yes  No

Are gas-powered equipment or cans of gasoline/fuels stored in the garage? Yes  No

Do the occupants of the building have their clothes dry cleaned? Yes  No

If yes, how often? weekly / monthly / 3-4 times a year

Do any of the occupants use solvents in work? Yes  No

If yes, what types of solvents are used? \_\_\_\_\_

If yes, are their clothes washed at work? Yes / No

Have any pesticides/herbicides been applied around the building or in the yard? Yes  No

If so, when and which chemicals? \_\_\_\_\_

Has there ever been a fire in the building? Yes  No If yes, when? \_\_\_\_\_

Has painting or staining been done in the building in the last 6 months? Yes  No

If yes, when \_\_\_\_\_ and where? \_\_\_\_\_

#### Part VI – Sampling Information

Sample Technician: \_\_\_\_\_ Phone number: (      ) \_\_\_\_\_ - \_\_\_\_\_

Sample Source: Indoor Air / Sub-Slab / Near Slab Soil Gas / Exterior Soil Gas

Sampler Type: Tedlar bag / Sorbent / Stainless Steel Canister / Other (specify): \_\_\_\_\_

Analytical Method: TO-15 / TO-17 / other: \_\_\_\_\_ Cert. Laboratory: \_\_\_\_\_

Sample locations (floor, room):

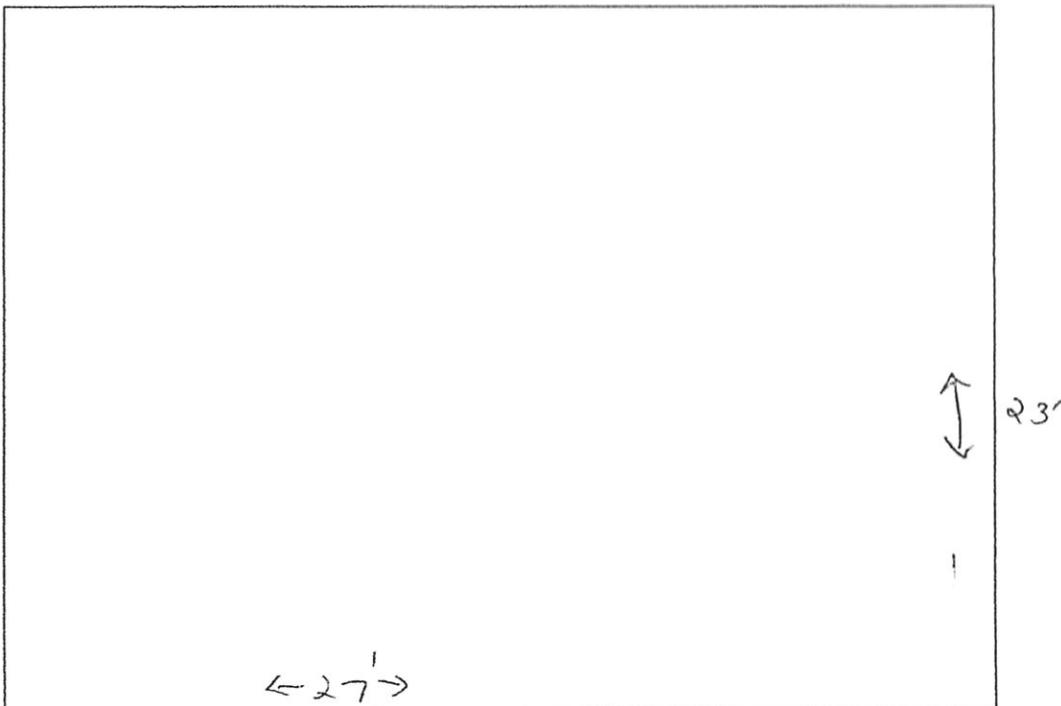
Field ID # \_\_\_\_\_ - \_\_\_\_\_ Field ID # \_\_\_\_\_ - \_\_\_\_\_

Field ID # \_\_\_\_\_ - \_\_\_\_\_ Field ID # \_\_\_\_\_ - \_\_\_\_\_

Were "Instructions for Occupants" followed? Yes / No

If not, describe modifications: \_\_\_\_\_

*Provide Drawing of Sample Location(s) in Building*



Part VII - Meteorological Conditions

Was there significant precipitation within 12 hours prior to (or during) the sampling event?      Yes / No

Describe the general weather conditions: \_\_\_\_\_

\_\_\_\_\_

Part VIII – General Observations

Provide any information that may be pertinent to the sampling event and may assist in the data interpretation process.

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

(NJDEP 1997; NHDES 1998; VDOH 1993; MassDEP 2002; NYSDOH 2005; CalEPA 2005)